Exhibit 4

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
TYLER DIVISION

SFA SYSTEMS, LLC	
v.	NO. 6:07-CV-067
INFOR GLOBAL SOLUTIONS (MICHIGAN), INC., ET AL.	

EXPERT REPORT OF CRAIG THOMPSON REGARDING VALIDITY OF U. S. PATENT NO. 6,067,525

I.   INTRODUCTION

I have been asked by the Plaintiff, SFA Systems, Inc. ("SFA") to provide my opinions on

the subject of whether the report of Dr. Daniel Cook (the "Cook Report") establishes invalidity

of U.S. Patent No. 6,067,525 (the "'525 Patent") by clear and convincing evidence.   In this

expert report I provide my opinions in rebuttal to the opinions of invalidity presented in the Cook

Report, as well as the bases for my opinions.   All of the opinions stated in this expert report are

based on my own study, knowledge, and professional judgment.   If called as a witness during the

trial in this matter, I am prepared to testify competently about them.

Based upon my education and experience and my review of the pertinent evidence, in my

opinion, the Cook Report does not establish invalidity of the '525 Patent by clear and convincing

evidence.

I.A   Retention

I have been retained as an independent expert witness in this litigation by SFA. 1 am being paid for my work on this case at the rate of $350/hour plus reimbursement of direct expenses. I have no personal interest in this litigation.

My qualifications for forming the opinions set forth in this report are summarized in Section I.F below, and are explained in more detail in my curriculum vitae which is attached as part of Exhibit I to this report. Exhibit I also included a list of my publications and a list of the cases in which I have testified at deposition, hearing, or trial during the past seven years.

I.B   Preparation of this Report

In preparation for this report, I have studied the Cook Report and the references cited therein. This expert report is based on my study of the information available to me at the time of its writing. I respectfully reserve the right to update, supplement, or amend this report in view of additional information obtained through discovery or other information that might become available between now and trial that is significant to the opinions set forth in this report, to any matters raised by the defendants, or to additional opinions provided by Dr. Cook or any other witness for the defendant, to the extent permitted by the Court. I also respectfully reserve the right to supplement or amend this report should the Court provide new constructions of terms from the '525 Patent which differ from the constructions previously provided in the Court's Court's February 23, 2009 Memorandum Opinion regarding Claim Construction.

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I.C   Qualifications

My background and professional qualifications as an expert witness are described in the paragraphs below. My Curriculum Vitae is Exhibit I to this report.

I am married to Janet Ritter Thompson of New Braunfels, Texas, and we have two grown daughters Jennifer and Kathryn, both raised in Plano, Texas, and both married.

I hold three degrees:

- B.S. in Mathematics, Stanford University, Palo Alto, California, June 1971.

- M.A. in Computer Science, The University of Texas at Austin, August, 1977.

- Ph.D. in Computer Science, The University of Texas at Austin, May, 1984.

I am currently a tenured Full Professor in the Department of Computer Science and Computer Engineering at the University of Arkansas, Fayetteville, where I have taught since 2003. My faculty website is: http://www.csce.uark.edu/~cwt. At The University of Arkansas, I hold the *Charles Morgan Graduate Research Chair in Database* – one of only seven Graduate Research chairs at the university, each endowed for $3M. Endowed chair positions aid in attracting top researchers to the university and in supporting those scholars' research activities.

Through my entire career, I have been involved in research in computer science. My career technical research contributions are recognized by the major professional society in our field. I am an *IEEE Fellow* elected in 2005 and cited for "contributions to artificial intelligence, database management, and middleware." [1]

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[1] With over 375,000 members in more than 160 countries, the non-profit Institute of Electrical and Electronics Engineers (IEEE) is the world's largest professional association for the advancement of technology. According to the IEEE website, "the IEEE Grade of Fellow is conferred by the Board of Directors upon a person with an extraordinary record of accomplishments in any of the IEEE fields of interest.... the total number selected in any one year does not exceed one-tenth of one percent of the total voting Institute membership." [http://www.ieee.org/web/membership/fellows/fellow_history.html]

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- *Artificial intelligence* is the study of machine intelligence including subfields natural language processing, vision, reasoning, expert systems, and knowledge representation.

- *Database management* is the study of systems for representing, storing, processing, and querying very large collections of data.

- *Middleware* is the study of software architecture, design patterns, and composition of systems from subsystems to insure properties like security, scalability, and reliability.

I have been an active participant in how these fields have developed. I am a named inventor on seven patents related to natural language interfaces and object database systems. Over my career, I have been the principal investigator for over $18M software research funding from DARPA, IR&D, SBIR, IBM, Oracle and Acxiom. My work led to two software products sold on the Texas Instruments Explorer Lisp Machine. I am co-author on over 90 research publications that have appeared in journals, technical magazines, and conferences. I am currently an editor for the *IEEE Internet Computing* technical magazine where my technical column *Architecture Perspectives* appeared three times annually, 2003-2008.

I grew up in Monterey, California. My computing career began in 1968 as a sophomore at Stanford, where I grew interested in artificial intelligence. During graduate school at The University of Texas at Austin (1971-1977), I worked as a teaching assistant and taught introductory programming courses in Structured Programming, Assembly Language, Numerical Analysis for Engineers, and Data Structures. Later, at the University of Tennessee, Knoxville (1977-1981), I taught senior-level and graduate courses on Artificial Intelligence and Database Management.

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I left academics for industry to work in the Computer Science Laboratory, Central Research Laboratories, Texas Instruments (TI) in Dallas, Texas (1981-1995). At TI, our research laboratory focused on artificial intelligence with projects related to natural language systems, expert systems, vision and speech processing as well as development of the Explorer Lisp Machine product line. In 1985, I was elected to the position *Senior Member of Technical Staff* (SMTS) based on my technical contributions - only 7% of TI technical staff can become SMTS. While at Texas Instruments in the time period 1981-1986, I prototyped and helped to productize *RTMS: Relational Table Management Facility*, a database product and *NLMenu: Menu-based Natural Language Interface*, a product that uses grammar rules to recognize English queries to a database system – both became products available on the TI Explorer Lisp Machines.

Thereafter at TI (1986-1995), I consulted for TI's Information Engineering Facility (IEF) project, a computer-aided software engineering (CASE) product for organizing enterprise data. As a branch manager, I led research projects on Hypermedia Information Systems (precursor of the World Wide Web) and Object-Oriented Database Management. One hypermedia project involved development of a pre-Web prototype Shopping Mall Store Editor for online shopping for Telaction, a JC Penney subsidiary that aimed to use cable TV and touch tone phones to deliver interactive content to the home (1988). Our object database work was funded by a contract from the Defense Advanced Research Agency (DARPA). Our "DARPA OODB" system was deployed at DoD designated sites in the early 1990s and led to patents including one titled "Apparatus and Method for providing an Object Event Detection and Notification Service via an In-Line Wrapper Sentry for a Programming Language" [U.S. Patent 5,752,034, Application: Jan. 1993, Issued May 1998], which describes an event/interceptor service for C++ used to

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seamlessly "add services" like persistence or versioning to C++ class definitions, including legacy code.

Our OODB research led to the development of a new kind of software architecture based on distributed object services and was one of the first *service oriented architectures* (SOA), a grand parent of today's widely-used web services. In a SOA, each distributed service has its own API and a common message passing bus is used for service communication. I became involved in standards development related to distributed object-oriented technology including co-authoring several influential reports for Object Management Group (OMG).[2] Early OMG specifications for basic object services included the name service, an event service, notification service, and others. In addition to the above reference models, I contributed specifications to OMG for an "Object Query Language" (1994) and an event-condition-action "Rule Management Facility" (1996). During that time, I also consulted for the National Industrial Information Infrastructures Protocols Consortium (NIIIP). At OMG and NIIIP, I worked closely with industry standards developers from the Workflow Management Coalition (WfMC).

In 1995, I co-founded Object Services and Consulting (OBJS - http://www.objs.com) and remained its President until 2003. OBJS conducted software research mainly for DARPA. My research during that time focused on middleware and agent technology. *Agents* are autonomous software components that communicate with each other in a distributed environment.

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[2] Including:

- W. Kent, A. Otis, C. Thompson, "Reference Model on Object Data Management." In: E. Fong, W. Kent, K. Moore, C. Thompson, Final Report of the ANSI X3/SPARC/DBSSG Object-Oriented Database Task Group, August, 1991. Distributed as NIST Technical Report, OMG Document 1989/89-10-02 and OMG Document 1992/92-2-05.

- W. Andreas, G. Lewis, M. Mathews, L. Scheffler, R. Soley, "Reference Model," Chapter 5 in Object Management Architecture Guide, Object Management Group, OMG document 1990/90-09-01.

- C. Thompson (ed), OMG Object Services Architecture, OMG document 92-08-04, Object Management Group, 1992

- M. Hardwick, J. Pan, C. Thompson, D. Zenie, NIIIP Reference Architecture: Concepts and Guidelines, National Industrial Information Infrastructures Protocols Consortium (NIIIP), January 1995

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At the University of Arkansas since 2003, I teach senior and graduate level courses on Artificial Intelligence, Database Management, Software Architectures, Programming Languages, and Capstone, and have taught special topics courses on RFID Middleware, Natural Language Interfaces, and Modeling Healthcare Logistics in a Virtual World. I am actively involved in research related to software architectures, distributed computing, middleware, grid computing, grid indexing, workflows, agents, natural language interfaces, pervasive computing, radio frequency identification (RFID), and 3D virtual worlds. I have chaired committees for and graduated students with the following computer science degrees: 1 PhD at UARK, 14 MS at UARK, 7 BS Honors theses at UARK, 5 MS MIT Coops while at TI, and 2 MS at UTenn. At The University of Arkansas, I am a board member of the Information Technology Research Institute, the RFID Research Center, the Center for Innovation in Healthcare Logistics, and the Enterprise Computing Steering Committee. Recognizing my career accomplishments and my service to Arkansas, I was elected into the *Arkansas Academy of Computing* in 2008.

In addition to teaching and research, from 2002 to present, I have been employed as a fact witness or expert witness on several software patent infringement lawsuits. These have involved my expertise in database query interfaces, spreadsheet access to databases, access to data warehouses and multidimensional databases, Extract-Transform-Load (ETL) workflows, and negotiation software in a buyer's workstation.

I.D   Documents and Materials Reviewed

Aside from reviewing the Cook Report, I have reviewed the '525 Patent, the file history for the '525 Patent, the Court's Memorandum Opinion construing the Claims of the '525 Patent,

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the references cited in the file history for the '525 Patent[3], the references cited in the Cook Report (see Section VI), and the materials set forth at Exhibit II to this report. The materials that I am relying on are of a type reasonably relied upon by experts in the field of software design and development in forming opinions.

I.E   Overview of the '525 Patent

United States Patent Application No. 08/550,089 was filed on October 30, 1995. The '525 Patent issued on May 23, 2000 bearing the title of "Integrated Computerized Sales Force Automation System." I understand that the filing date of the original application that ultimately issued as the '525 Patent is October 30, 1995. For the purposes of this Report, I have been asked to assume that the critical date for prior art to the '525 Patent for purposes of U.S.C. § 102(b) is October 30, 1994. The listed inventors are Jerome Johnson, David Lundberg and Michael Krebsbach.

In its Memorandum Opinion of February 23, 2009, the Court summarily described the '525 Patent in the following terms:

> "The '525 Patent describes a sales automation system. The system integrates various computer implemented subsystems used during the sales process. This integration allows the different subsystems to share data so that a change in one subsystem can be accounted for by all subsystems so that they may adapt accordingly. The various subsystems incorporate a wide variety of tasks that may be applicable to a particular sales

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[3] As follows:

- Tom Negrino, "Sales-Automation Software", Macworld, v 10, n 10, pp. 144-148, Oct. 1993.

- Tony Seideman. "Way Cool! (Sales Force Automation)". Sales & Marketing Management. v 146. n 6. pages 10 - 13. June. 1994 (hereinafter "Seideman")

- John Hiatt. "Empowering the Global Sales Force". International Business. v 7. n 9. pages 16 - 20. September. 1994 (hereinafter "Hiatt")

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environment including order management, training, customer retention, and sales. The subsystems may also include a number of 'support' subsystems that function to aid the primary systems in their tasks. The patent teaches that these subsystems can be implemented in a variety of combinations depending on the sales environment provided that they are fully integrated with each other.

"In order to fully integrate the many subsystems and allow the system as a whole to adapt to changing circumstances, the system employs an event manager. The event manager is responsible for performing various functions allowing the subsystems to communicate and adapt as a group rather than individually. Overall the system seeks to maximize efficiency in the areas of promotion and sales." [Markman, pp. 1-2]

The field of the '525 Patent entitled "Sales Force Automation" is described in the first sentence

of the *Background of the Invention* in the patent as:

"The present invention is directed to a sales force automation system and, more particularly, to an automated sales system which facilitates the sale of an item or service by intelligently integrating into a single system tools used by a salesperson in the sales process." ['525 Patent, 1:5-9]

The patent applicants noted in their description of the *Background of the Invention* that:

"Most conventional sales systems have been implemented in a limited manner and are typically directed solely to a particular event, task or small subset of tasks in the sales process." ['525 Patent, 1:10-13]

"Such conventional sales automation systems are often developed by separate vendors and, as described above, the vendors develop the systems in consideration of only that portion of the overall sales process in which the sales automation system is to be used. As a result, the different systems are oftentimes incompatible with one another. . . . The use of multiple, often incompatible sales tools throughout the sales process increases the costs associated with making the sale and lessens the likelihood of making the sale by diminishing the impact of the sales presentation and by failing to effectively use all of the information available to the salesperson." ['525 Patent, 1:48-61]

"Conventional attempts to couple different sales tools together have also failed to appreciate the overall sales process." ['525 Patent, 1:62-64]

The *Summary of the Invention* states (quoted in full):

"In general the present invention provides an improved system for facilitating a sales process. In one particular embodiment, the present invention is implemented in the form of a computer sales system which is used to facilitate a sales process. The system includes a plurality of subsystems each corresponding to a phase of the sales process to facilitate one or more events occurring in the corresponding phase of the sales process. The system also includes an event manager coupled to each of the subsystems which

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recognizes an event carried out by one of the subsystems, determine [sic] the context in which the recognized event occurs and automatically initiate [sic] an operation in a another [sic] subsystem to facilitate a new event in the sales process on the basis of the context in which the recognized event occurs.

"In accordance with a another [sic] aspect of the invention a sales process may be facilitated by using a computer to facilitating [sic] an event occurring in the sales process using a subsystem adapted to facilitate the event. The computer automatically detects the occurrence of the event and determines the context in which the event occurs. The computer further automatically initiates an operation using another subsystem of the computer to facilitate a new event based on the context in which the first event occurred.

"Still another aspect of the invention is implemented in the form of a computer implemented sales system which includes a plurality of subsystems each electronically facilitating an event occurring in the sales process. An event manager is coupled to each of the plurality of subsystems to detect the occurrence of an event in the sales process, to link the event in the sales process with a second event in the sales process based on prior sales experience sing the sales system. The system automatically initiate [sic] an operation using one of the plurality of subsystems to facilitate the second event" ['525 Patent, 2:21-55]

I.F   Overview of the File History for the '525 Patent

I.F.1   Dr. Cook's Comments regarding File History pp. 20-21 (quoted)

80.   My analysis included a review of the prosecution history for the '525 Patent including the references cited. At trial, I may discuss the prosecution history including:

> Claim amendments and applicants' arguments made within the prosecution history;
>
> the change in examiners and how the inconsistency between Claims and specification arose; and
>
> that the patent examiner's reasons for allowing Claim 1-43 focus on an event manager that infers an event.

81.   In the Claims of the '525 Patent as originally filed, the verb "inferring" was presented in the independent Claims as "determining" and "recognizing."

82.   To overcome Claim rejections, the inventors amended the phrase to use the verb "inferring."

83.   Based on this amendment, the inventors argued for patentability over the Negrino prior art reference cited by the PTO.

84.   In a later Reply, the inventors argued that:

Negrino's steps do not include inferring the context, and it would be impermissible to use hindsight to find that Negrino 1 includes contextual inferences in the sentence 'A sales plan spells out... Also, keeping a database of information about clients, including detailed contact history, ..., is not referring to making contextual inferences of events.

85.   Thereafter, the PTO allowed the amended Claims, based on these arguments and finding that the prior art did not include "inferring context."

I.F.2   Response to Dr. Cook's Comments regarding File History

Regarding Dr. Cook's paragraphs 81-82, the applicant replaced the terms "determining" and "recognizing" with the "inferencing" terms and their associated functionality, in order to overcome the Examiners indefiniteness rejections.

Regarding Dr. Cook's paragraph 84, the patent examiner provided understandable and well founded reasons for granting the '525 Patent in the *Notice of Allowability*. Specifically, On December 20, 1999, the Examiner issued a *Notice of Allowability* for pending Claims 1 - 43. The following is an Examiner's Statement of Reasons for Allowance (quoted):

"The prior art taken alone or in combination fails to teach or suggest an event manager inferring occurrence of the event and a context in which the event occurred based at least in part of the detected changes in state characteristic and initiate an operation in one or more subsystems as argued in the remarks and as recited in independent Claim 1.

"The prior art taken alone or in combination fails to teach or suggest inferring occurrence of the event and a context in which the event occurred based at least in part on detected changes in state and initiating an operation in one or more subsystem as argued in the remarks and as recited in independent Claim 17.

"The prior art taken alone or in combination fails to teach or suggest an event manager to link the inferred event with an action to be performed during the sales process based on prior sales experience and initiate an operation using one or more subsystem to facilitate the action to be performed as argued in the remarks and as recited in independent Claim 17." ['525 Patent File History, p. 299]

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I.G   The State of Relevant Software Technology at the time of '525 Invention

I include Dr. Cook's summary of the history of information technology and computer

software with respect to the '525 Patent (issued October 30, 1995).   Then I add additional

historical information that helps put the '525 Patent invention in context and, finally, I provide

conclusions regarding software technology at the time of filing of the '525 Patent.

I.G.1   Dr. Cook's Summary from his Expert Report pp 26-28 (quoted in full)

A Summary History of Information Technology and Computer Software With Respect
To the '525 Patent

119.   One of the ways of analyzing and understanding the '525 Patent, the '089
Application, and the asserted Claims, is to consider the methods of the patent in an
overall context of the history of information technology and computer software used for
salesforce automation.9 A "look back" at the history is relevant because it provides a
framework for the prior art (discussed below) as well as a general background on the
actions of the Defendants which have been accused by the Plaintiff of infringing Claims
1-3, 5-8, 10, 12, 20, 24, 34, 35, 37, and 40-42 of the '525 Patent.

Event Driven Systems

120.   Computer systems with operating systems have been using event driven
architectures for more than thirty years. The technique of using "events" and "event
managers" to sequentially process and respond to any individual event is a classic method
to control the operation of a multithreaded, multi-component system. This technique is
well known in the computer programming and system development art. For example, the
Quartermann reference listed in Appendix B describes the Unix Kernel in terms similar
to '525 Patent "Event Manager."

121.   Other event driven systems and entities similar to the event manager described in
the '525 Patent that respond to states of a system have been described in the literature
since the 1960's. For example, the Garlan reference listed in Appendix B describes "[a]n
event system ... consists of a set of components and an event manager. The event
manager, EM, is a binary relation associating events and methods that should be invoked
when that event is announced. Thus, ... when an event is announced, all methods related
to it by EM are invoked in the corresponding components." In the Spezialetti Reference
listed in Appendix B, there is also a discussion of an event manager as described in '525.

122.   Event driven systems with event managers have also been described in a variety
of domains including distributed systems, embedded real-time systems, computer
graphics, and digital signal processing, prior to the filing date of the '089 Application.

These "event managers" are based on detecting changes of states within the system, and initiate appropriate actions in response to such change of state. Indeed, there are numerous articles and other sources of information that indicate that the teachings of the '525 Patent (particularly those concerning the event manager) were known to the public prior to the filing date of October 30, 1995. A Google Scholar search for papers written between 1960 and 1994 with the terms "event manager" and "software" returns more than 10,000 papers in many areas of computer science, including signal processing, embedded systems, operating systems, distributed processing, and graphics.

Salesforce Automation Software

123.   Automation of the salesforce coincided with the automation of business process in general in the early 1990's. Aspects of sales processes, such as capturing the initial lead, learning about the prospect's needs, making a sales presentation, submitting and refining a bid, and finally closing the sale are starting to become automated with the advent of wide spread use of computer systems in business. Computer programs were initially introduced to facilitate individual sales tasks like contact management, product configuration, and order management. By early 1990's, sales-automation software integrated features from address book managers, calendar programs, word processors, and other standard business tools. Information within one feature of the software can be used to initiate activities in another feature of the software. For example, the software can automatically schedule a follow-up call when a sales person sends a letter to a client. Scheduled and completed client contact can be linked to client history. Some programs even support sales plans, which are highly structured strategies that are customizable for a particular business. A sales plan spells out every step of the sales process and directs one or more sales people to perform certain tasks based on the outcome of the previous step. Many integrated sales automation software packages were commercially available at the time. See Negrino references listed in Appendix B.

Conclusions Regarding Software Technology at the Time of Filing of the '525 Patent

124.   It is apparent that the software technology through the 1980's provided more than a sufficient foundation for companies to develop a plurality of subsystems each configured to facilitate a phase of the sales process, which are coupled to an event manager that would monitor states within the plurality of subsystems and detect event occurrences within the plurality of subsystems and initiate actions based on such detected events. Also, outcome of previous events can be used to direct the response to a future event.

125.   All of the important components of the '525 Patent existed in integrated forms as described in '525 Patent prior to the critical date of the '525 Patent.

126.   These articles along with the other references cited above provided information relating to the '525 Patent and would have provided suggestions, motivation, and teachings to a skilled artisan who could have combined one or more of them along with other prior art to practice the asserted Claims. In addition, one skilled in the art when

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trying to solve the problem posed by the inventors of the '525 would have a finite number of predictable solutions with predictable outcomes.

I.G.2   Additional History of Computing Relevant to the '525 Invention

The '525 Patent makes reference to the following terminology assumed to be understood by the reader of the '525 Patent (among others): *system, subsystem, component, integrated sales system, sales force automation, distributed object, object-oriented programming, object-oriented architecture, business object, workflow, event, event manager, trigger [a change], detect [a change of state], inference, inference engine, expert system, rule* and, *business rule.* The '525 Patent states:

> "Preferred system 20 integrates one or more of distributed system technology, object-oriented architecture, multimedia presentation technology and workgroup/workflow automation capabilities to provide a fully integrated computerized sales-force automation system. ['525 Patent, 8:2-7]

The remainder of this section provides background on these technologies.

In the Middle Ages, rhetoric was taught as a way to use language to make arguments. In the pre-computer era before the 1950's, mathematicians and logicians developed Boolean logic and later propositional and predicate calculus (e.g., "All x Exists y x likes y" meaning "everyone likes someone") to precisely represent facts and rules. The truth value of a Boolean expression could be determined (in bivalent logics, as either true or false) and inferencing techniques like *modus ponens* could be used to reason that IF *Socrates is a man* AND *All men are mortal*, THEN *Socrates is mortal.*

Many of the foundations of computer science and information technology were developed in the 1950's to 1970's. During that era, hundreds of computer languages were developed that operated on a variety of computing machines from mainframes to mini computers. Programming paradigms (procedural programming, functional programming, object-

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oriented programming, event-driven programming and rule-based systems) were developed. Database technologies matured from structured file systems and progressed through hierarchical, then network, then relational data models that organized data primarily in hierarchies, then graphs, and finally tables. Artificial intelligence developed diverse technologies for natural language processing, computer vision and a variety of computational languages and systems for representing information and solving problems. These latter included the resolution inference method for mechanically proving theorems represented in predicate calculus; languages like Prolog that consisted of facts, inference rules and goal statements; situational planning technologies (e.g., STRIPS); and a family of machine learning technologies including neural networks, pattern recognition, genetic algorithms, and Bayesian learning networks. By the end of this era, computer networking was in its infancy with the first deployments of ARPANET, soon to evolve into the Internet.

During the 1980's, mainframe computers were still the workhorse computer for enterprise systems; expensive workstations and dumb terminals were common; and the personal computer was on the ascent. PC applications, text editors and Email were common in corporations; and applications began to use manual cut-and-paste to copy information from one application to another. Relational database systems (that stored data in tables) had become mature and were coming into dominance. Pull-down menus, GUIs, and forms management systems began to be useful in rapidly developing applications so that many individual applications had a common look and feel. Object-oriented programming languages (like C++) were becoming increasingly important; and new rule-based languages like Prolog were developed. The mid-1980's was viewed as an artificial intelligence (AI) summer – inference engines, and knowledge-based systems including KEE, ART, and Knowledge Craft were being

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developed and commercialized by AI startup companies – but interest declined in these in the late 1980s.   At the end of that decade, the Internet dominated and was widely available (alongside many proprietary computer networks) but distributed object computing technologies were still immature and the web was just being conceived.

In the first half of the 1990's up to the critical date of the '525 Patent, client server systems were becoming popular. Enterprises began to focus on data warehousing and data mining, a form of knowledge discovery, to identify hidden relationships in data. Replacing pre-Web experimental cable-based systems like Telaction and earlier online subscriber systems that connected consumers via dial-up to applications like news and weather (e.g., Prodigy Online Service), the era of the World Wide Web was beginning as the Mosaic web browser became widely available in 1993 and the Netscape web browser in late 1994 – ushering in the Web revolution. Software released in 1995 included Microsoft's Windows 95 operating system, the integrated suite Microsoft Office, and the object-oriented programming language Java. Meanwhile, Computer Aided Software Engineering (CASE) tools were at their peak in the early 1990s – for designing enterprise applications. At that time, there were no dominant standards and many competing CASE methodologies. With the decline of mainframes, many of the mainframe-centered enterprise CASE tools of this era (e.g., Texas Instruments' Information Engineering Facility (IEF), one of several such CASE tools) declined, with a resurgence of interest in a Unified Modeling Language (UML) in the latter half of the 1990s.

The '525 Patent describes how to construct an application suite for use by a sales force in such a way that, for example, various modules of the system handled different phases and functions of the sale process in such a way that if information is entered or updated in one module, that change may lead to updates in other modules.   The mechanism employed in

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integrating the modules involves detecting events, then triggering inferences or actions that update other modules.

The '525 Patent identifies pre-existing technologies it depends on and some of these are described in more depth.

- State, state change, and data structures – Computer programs use variables like CUSTOMERNAME and AGE to store values like "Edgar Allen Poe" and 40 respectively. Some variables change state over time, for instance Poe's age. Complex data structures like lists, trees, graphs and tables can be created out of simpler data structures like numbers, Booleans values like true and false, and strings (textual character data). Consistent with this description of state, the court indicated "A "state" is well understood in the art to mean a certain unique configuration of information." [Markman, p7] and so construed "Changes in state characteristic of an event" as "a change in a unique configuration of information within the system that is indicative of the occurrence of an event within the system".

- Programming paradigms – different programming methods (called paradigms) have been developed over the years (before 1995) to provide different ways of organizing data and computation. The *procedural* programming paradigm defines a set of data structures, then an algorithmic procedure or fixed set of steps that the computer will follow (including branching instructions like "IF market is high THEN sell stock." Flowcharts are often used to show the predetermined set of steps. Other paradigms include the functional, object-oriented, event-driven and rule-based paradigms. We described the latter two as relevant to the '525 Patent.

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- Event-driven programming paradigm – At the time of the invention, the event-driven programming paradigm was known and distinguished from procedural programming though it was usual for programs to use both. As described, in procedural programming, a computer executes a set of steps, including steps to read input, computer results, and write out results. Event-driven programming is used when a program can receive inputs (*events* that change the state of variables) at any time from an external environment (including from other programs) and must handle those events. The result is that the programming steps no longer follow a strictly step-by-step procedural algorithmic order; instead, when a variable's state changes, under specified conditions, that may sometime trigger an event. Early computer operating systems in the 1960's and 1970's used *interrupts* to identify when a program tried to reference a memory word address that was out of bounds of the region of memory assigned to that program. With the advent of graphical user interfaces, interactive programs would respond to *mouse or keyboard events* (e.g., right click on a menu) to execute some associated set of steps. Event-driven programming was used not only in developing graphical user interfaces, but in other areas as well. Database systems began to support *triggers* and *constraints* so that if a user changed the state of the database (e.g., using *insert, delete*, or *update* commands) then that could trigger separately specified operations to occur. In a similar manner, email client programs running on an end-user desktop computers or notebook or laptop computers (since the 1980s) would periodically *poll* an email server to detect the event of any recently arrived email messages and download any such messages to the client machine (in a local

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area network or over dial-in lines). After the time of the '525 invention, the popular programming language Java would refer to *listening* for events (detecting) and *handling* events (taking action), represented as *listener* and *handler* classes. Regarding the term "event manager" used in the '525 Patent in claims 1 and 40-42, the court construed this term to mean "hardware and/or software" and noted that the claim language in independent claims 1 and 40 describes "an event manager, coupled to the subsystems" and that "The term "coupled to" necessarily implies that the event manager is separate from the various subsystems." [Markman, p8]. The court also noted that

> "both sides attempt to incorporate the general function of the 'event manager' in their definitions. Ultimately, these descriptions are vague and redundant of the claim language. Claim 1 provides that the "event manager detect[s] . . . infer[s] . . . and automatically initiat[es] an operation in one or more particular subsystems. Claim 40 has almost identical language. Both Infor's and SFA's definitions are too broad in light of the very specific functions provided for in the claim language. Further, Infor's term, "intelligently controls,' is vague and would require even further definition. The claim language already provides for the 'event manager's' relationship with the subsystems as well as its various functions. No additional limitations are necessary beyond the agreed limitation that the event manager must be "hardware and/or software.' Accordingly, the Court construes the term as 'hardware and/or software.'""
> [Markman, p8-9]

Hardware and/or software (an event manager) that "detect[s] . . . infer[s] . . . and automatically initiat[es] an operation in one or more particular subsystems" goes beyond traditional event managers.

- Rule-based programming paradigm – Where procedural programs operate on a predetermined sequence of steps, the rule-based programming paradigm separately specifies declarative knowledge (represented in the form of facts and rules) and control knowledge which describes what order to consider the facts and

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rules in to solve problems. The control knowledge was sometimes encapsulated in a so-called *engine* or *shell* that operated on the declarative facts and rules. Generally, such systems of the 1980s were built when a so-called knowledge engineer would interview a so-called domain expert and try to represent their knowledge somehow, often (but not always) in the form of rules that, for example, an expert system shell could operate on. I will further describe expert systems and related topics inference, forward chaining, and backward chaining technology known prior to the '525 invention in Section V.B.2.

- Combining programming paradigms – In some cases, programming paradigms were combined as when event-driven programs detected an event and then followed a procedure to respond to the event. Similarly, the methods of object-oriented programs were often coded procedurally.

- Middleware frameworks and interprocess communication – In the 1960's through the 1980's, programs called operating systems scheduled independent application programs. Some programs like Email and database management systems depended on being able to communicate across networks with other programs. For instance, structured messaging via LISTSERV programs to track mailing group memberships date from the mid 1980s. Additionally, Electronic Data Interchange (EDI) standards and systems were deployed by the late 1980s to enable industrial partners to request quotes and place orders for goods. The Open Database Connectivity specification (ODBC) was developed to standardize how applications could connect to database management systems. With the advent of client-server computing and distributed object computing, it began to be easier for applications to communicate with each other. Mechanisms for remote procedure calls

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and languages like the Object Management Group (OMG) and Interface Description Language (IDL) made it easier for one program to send messages to another using remote method invocation.   At the same time, in the early 1990's, OMG was developing collections of so-called middleware services that could operate together (using IDL to communicate) to make it easier to build higher level application suites.   Workflow Management Consortium (WfMC, founded in 1993) was working on developing workflow specifications – a workflow reference model (Nov 1994) and an initial specification 1996).   By 1994 a special interest group on business object management (BOMSIG) formed at OMG to formulate concepts and specifications for representing application-level business objects and business rules.

- B2B and B2C Software – Software that connected business to business (B2B) and business to consumers (B2) existed prior to 1995. By that time, it was well known how to use databases to look up parts at an auto shop or check inventories to see if requested parts were on hand. It was known how to send requests for quotes to a supplier, and how to process orders, check for credit, and receive payment (as mentioned, EDI standards existed for this).   At the same time, integrated suites consisting of software components were just beginning to appear – as mentioned, the Microsoft Office suite was a collection of software products, bundled for sale that used a common cut-and-paste protocol for sharing information across applications.   At the time of the '525 Patent, integrated application suites were not yet very common, and few, if any, used events and rules to share information among application components as described in the '525 Patent.

To conclude this history of technologies with more recent events that occurred after the '525 invention, the later half of the 1990's saw the development of improved technologies. The web

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exploded with commercial applications (the Internet bubble). The Extensible Markup Language (XML) was developed to provide a better way to share structured information among applications. Web service technology evolved from OMG's IDL to use other technologies (XML, WSDL, SOAP, UDDI) to enable applications to communicate across the web. Service Oriented Architectures (SOAs) expanded on OMG's original object service architecture using web service interfaces. Using these new technologies, integrated application suites began to be more common, including the SAP's Enterprise Service Oriented Architecture built on web services on Oracle E-Business Suite which today includes Customer Relationship Management, Advanced Procurement, Contracts, HRM, and related products (http://www.oracle.com/applications/suites.html) providing a common interface to a suite of tools that a sales and marketing organization can use to share data, information and knowledge across business functions and application boundaries.

I.G.3   Conclusions Regarding Software Technology at the Time of Filing of the '525 Patent

In his conclusions regarding software technology at the time of the filing of the '525 Patent, Dr. Cook states that "All of the important components of the '525 Patent existed in integrated forms as described in '525 Patent prior to the critical date of the '525 Patent." The inventors of the '525 Patent would have understood that a strong foundation of enabling technologies existed at that time; as evidence, they depended on a reader of ordinary skill in the art at the time to understand the terms as I described them in Section I.G.2. At the same time, especially in light of the prior art references reviewed in Section VI, the Cook Report presents no evidence that, in the absence of the '525 Patent, one of ordinary skill would have been motivated or able to develop integrated application suites for sales force automation using event and rule

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technology to enable a system to share knowledge across subsystems or to learn and improve.

Indeed, as I describe in the above section, it was not until several years after the invention that

integrated application suites for sales force automation became more widely available.

II.   LEVEL OF ORDINARY SKILL IN THE ART

I provide Dr. Cook's definition followed by my own definition of "a person of ordinary

skill in the art."

II.1   Dr. Cook's Definition of Level of Ordinary Skill in the Art

51.   For purposes of this report, I have concluded that a person of ordinary skill in the art of the Claimed subject matter of the '525 Patent is a person who has, through education or practical experience, the equivalent of a Bachelor's Degree in Computer Science and 2-3 years of experience in programming business process automation and information systems.

52.   More specifically, it is my opinion that the person of ordinary skill in the art of the Claimed subject matter of the '525 Patent has practical experience or training so that she or he could understand the architecture, development, implementation of the systems of the '525 Patent, and execution of computer systems that perform the methods of the '525 Patent.

53.   I have applied this level of ordinary skill in the art for my opinions when required. My expertise in the fields of the '525 Patent includes being at least one of ordinary skill in the art, as described above, in my curriculum vitae, and at my biographical listing at the university www.cs.ttu.edu. I also have experience working with individuals "of ordinary skill in the art" in the computer software and information systems industry and consultants to the computer software and information systems industry and with Computer Scientists at NASA. I have also had course participants in my computer science graduate school courses and continuing education programs who qualify as one of "ordinary skill in the art."

54.   Additionally, I was directly involved in the development of software for information systems from 1979-1984.

II.2   My Definition of Level of Ordinary Skill in the Art

I have reviewed the material related to the '525 Patent listed in Section I.D, including Dr. Cook's Expert Report. For purposes of this report, I agree with Dr. Cook's conclusion "that a person of ordinary skill in the art of the Claimed subject matter of the '525 Patent is a person who has, through education or practical experience, the equivalent of a Bachelor's Degree in Computer Science and 2-3 years of experience in programming business process automation and information systems." I add that such a person of ordinary skill in the art would have a working knowledge of database systems and sales systems, and knowledge of then current technologies including client-server computing, Web technologies, workflow, distributed object computing, and a background in artificial intelligence related to inference, rules, expert systems and learning technologies. However, my opinions would not change in any meaningfully way if the level of ordinary skill in the art was found to be that set forth in the Cook Report.

In my opinion, my educational qualifications and experience qualify me as at least one of ordinary skill in the art concerning the subject matter of the '525 Patent, including the subject matter of the asserted Claims of the '525 Patent.

III.   CLAIM CONSTRUCTION

I have reviewed the Court's February 23, 2009 Memorandum Opinion regarding Claim Construction. The Court construed certain terms found in the '525 Patent as follows:

- "Changes in state characteristic of an event" - "a change in a unique configuration of information within the system that is indicative of the occurrence of an event within the system;"

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event;

- "Event manager" - "hardware and/or software;"

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- "Expert system" - "a software program operating on a set of rules which can be automatically updated based upon successful sales approaches;"

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules;"

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules;"

- "Inferring occurrence of an event" - "logical process by which the fact that an event has occurred is derived by application of logical rules;" and

- "Subsystem" - "a system that is part of a larger system."

My validity analysis relates to the '525 Patent as construed by the Court. In my opinion, the other terms in the asserted Claims may be understood in accordance with their ordinary and customary meaning to one of ordinary skill in the art as of the October 1995 filing date of U.S. Patent Application No. 08/550,089.

IV.   LEGAL PRINCIPLES

The Applicable Law: Invalidity

I am not an attorney, but have set forth below some of the background law that I understand the jury and Court must apply in considering the validity of the '525 Patent. I understand from SFA's counsel that, subject to any rulings from the Court, the following law is generally applicable with regard to the validity of a United States Patent. SFA's counsel have also referred me to the Manual for Patent Examining Procedure (which is intended to be used by non-lawyer patent examiners) at www.uspto.gov/web/offices/pac/mpep, as resource for generally applicable legal principles. I have applied this law to the facts in this matter in my research and in rendering my opinions.

Presumption of Validity

I understand that a patent is presumed valid.

Burden of Proof

I also understand that clear and convincing evidence is required to invalidate a patent.

Lack of Written Description Support (35 U.S.C. § 112)

I have been informed by counsel, and I understand that pursuant to Section 112 of the Patent Act, a patent specification must "contain a written description of the invention,"   To satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now Claimed. The fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now Claimed.

Lack of Enablement (35 U.S.C. § 112)

I have been informed by counsel, and I understand that pursuant to Section 112 of the Patent Act, a patent specification must disclose "manner and process of making and using [the Claimed invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation. A patent need not teach, and preferably omits, what is well known in the

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art. The fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue.

Anticipation (35 U.S.C. § 102)

I understand that a patent Claim is invalid if anticipated by the prior art, meaning that a single reference that qualifies as prior art under 35 U.S.C. § 102 meets each and every element of the Claim. If any elements of a Claim are not met by the prior art reference, then there is no anticipation.

I understand that a patented invention is entitled to priority at least to the earliest effective filing date of the patent application -- in this case the priority or "invention" date would be at least October 30, 1995. [4]

I understand that Dr. Cook's anticipation arguments are based upon patents and two alleged publications. The standards for anticipatory prior art are set out in 35 U.S.C. § 102, which is reproduced in pertinent part below:

> (a)   The invention was . . . Patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for Patent.

> (b)   The invention was Patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for Patent in the United States.

> *   *   *

> (c)   The invention was described in ... (2) a Patent granted on an application for Patent by another filed in the United States before the invention by the applicant for Patent ....thereof by the applicant for Patent.

> *   *   *

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[4] For purposes of this report I will assume that the invention date for the '525 Patent is its October 30, 1995 filing date, and that the "critical date" is October 30, 1994. Dr. Cook and I appear to agree on these points.

(d)   the invention was described in . . . (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent . . .

.   I understand that the phrase "printed publication" is a legal term of art. I understand that the fact finder will determine whether a prior art reference constitutes a printed publication. I do not see how Dr. Cook or I have any meaningful expertise on opining whether something qualifies as a printed publication. My discussion of Infor's asserted prior art should not be deemed an admission of its status as a printed publication, as I understand Infor has the burden of proving this at the trial.

Obviousness (35 U.S.C. § 103)

I understand that a patent Claim is invalid if it is obvious in view of prior art. I understand that the obviousness standard is provided by 35 U.S.C. § 103, which are reproduced in pertinent part below:

> (a)   A patent may not be obtained though the invention is not identically disclosed or described as set forth in Section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made. 35 U.S.C. § 103(a).

In determining whether or not a patented invention would have been obvious, I understand certain things from the USPTO's Manual for Patent Examining Procedure ("MPEP"),[5] as follows:

> (a)   The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

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[5] See Section 2100 of the MPEP including at
http://www.uspto.gov/web/offices/pac/mpep/documents/2100_2141.htm.

(b)   When a patent Claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.

(c)   When a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious

(d)   If a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

(e)   When considering obviousness of a combination of known elements, the operative question is thus whether the improvement is more than the predictable use of prior art elements according to their established functions.

(f)   The framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in Graham v. John Deere Co. This framework consists of: (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the prior art and the Claimed invention, and (4) the extent of any objective indicia of nonobviousness.

Objective indicia, sometimes referred to as "secondary considerations," may include evidence of commercial success, long-felt but unsolved needs, failure of others, and unexpected results. The evidence may be included in the specification as filed, accompany the application on filing, or be provided otherwise.

V.   COMMENTARY ON DR. COOK'S NARRATIVE

V.A   *Summary of Findings*

It is my opinion, based on my knowledge, training, skills, experience, and on my analysis of the '525 Patent and prosecution history, the Court's Claim construction, my review of the Cook Report, and the prior art listed here, that the '525 Patent is valid. This opinion is based on my understanding of legal principles and my interpretations discussed below related to Written Description, Enablement, Anticipation, and Obviousness. For each of these principles, I first review Dr. Cook's opinion, then express my own opinion. Because Dr. Cook grouped Written

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Description with Enablement and Anticipation with Obviousness, I follow suit but provide

separate arguments addressing all four legal principles.

V.B   Lack of Written Description Support (35 U.S.C. § 112) and Lack of Enablement (35

U.S.C. § 112)

V.B.1 Dr. Cook's Opinion regarding Lack of Written Description Support and Lack of Enablement

Dr. Cook summarizes his conclusions related to lack of written description and lack of

enablement together (pp. 3-4 paras. 16-18, quoted)

> 16.   The application that ultimately issued as the '525 Patent does not provide
> adequate written description (i) to demonstrate that the inventors had possession of the
> Claimed invention, or (ii) to enable the Claimed invention. In particular, there is no
> disclosure for (i) what "inferring" is, and (ii) how "inferring" is made or used in the
> invention of the application as filed.
>
> 17.   The '525 Patent discloses no working or even prophetic examples of a sales
> system or method that infers the occurrence of an event, that is, the logical process by
> which the fact that the event has occurred is derived by application of logical rules.
>
> 18.   The application that ultimately issued as the '525 Patent does not provide
> adequate written description (i) to demonstrate that the inventors had possession of the
> Claimed invention, or (ii) to enable the Claimed invention. In particular, there is no
> disclosure for an expert system as it would have been understood by one skilled in the art
> at the time the application was filed.

Dr. Cook provides further opinions related to lack of written description in a later section (pp.

21-24, paras. 86-108, quoted)

> 86.   It is my opinion that U.S. Application No. 08/550,089 ("the '089 Application"),
> which issued as the '525 Patent, does not reasonably convey to one of ordinary skill in
> the art that the inventors of the '525 Patent had possession, at the time the '089
> Application was filed, of the Claimed invention as issued. As a result, the asserted
> Claims lack adequate written description.

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87.   In reaching my conclusion, I reviewed the entire '089 Application, including its specification and the originally submitted Claims. The specification in the application is essentially the same as the specification that issued in the '525 Patent.

88.   The '089 Application does not convey to one skilled in the art that the '525 inventors possessed: (1) a system that "infers"; (2) "backward" inferring, i.e. inferring that an event has occurred in the past (as opposed to "forward" inferring, i.e., inferring what the next action should be); or (3) an expert system as understood by one skilled in the art in 1995.

89.   I have noted that the critical term "infer" – in any of its verb forms – does not appear anywhere in the '089 Application.

90.   The Court construed "inferring" as the "logical process by which a factual conclusion is derived from known facts by the application of logical rules".

91.   My understanding of the meaning of "inferring," based on the Claim language, the Court's construction, and my knowledge and understanding of the art is that "inferring" requires the addition of facts or knowledge to the system, i.e. the derivation of new facts, previously unknown to the system, based on the application of logical rules to known facts.

92.   This understanding of the term "inferring" is consistent with the typical understanding of those with ordinary skill in the art when the application was filed and today. See, e.g., "Inference: The logical process by which new facts are derived from known facts by the application of inference rules." Foldoc On Line Dictionary of Computing, 2008, www.foldoc.org; "Inference: A process of deriving new facts from facts already known, by means of the rules of logic." CCI Computer, Online HighTec Dictionary, 2008 www.computeruser.com.

93.   The '089 Application does not include any disclosure related to using rules to acquire additional knowledge. In contrast, the '089 Application only discloses the use of standard conditional logic by the system. Standard conditional logic consists of if/then statements of the form if condition x is true then take step y. More specifically, the system only applies logical rules to known facts in order to algorithmically direct next steps. It does not, however, apply logical rules to known facts to derive factual conclusions, i.e. to add new knowledge to the system.

94.   In sum, nothing in the '089 Application discloses that the inventors possessed an invention that derived factual conclusions from known facts by the application of logical rules at the time the '089 Application was filed.

95.   Moreover, to the extent the '089 Application contains any disclosure relating to inferring, it does not disclose any system, feature, or function relating to any backward inference, i.e. inferring that an event has occurred, which is literally required by the Claims.

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96.   The Claims of the '525 Patent first call out "an event occurring within the system," then require that the system infer "occurrence of the event." I understand from counsel that, due to the requirements for antecedent basis in patent Claim drafting, the occurrence of the event inferred must necessarily be the event occurring within the system that is characterized by the detected change in state.

97.   I understand that under patent law, the antecedent basis requirement requires that any item that is called out specifically in a Claim by a definite object (e.g. "the"), must have previously been identified as an element of the Claimed invention and introduced by an indefinite article (e.g., "a").

98.   Based on the antecedent basis requirement, when the Claim requires that the system infer the occurrence of "the" event, the event that is inferred must be the event occurring within the system characterized by the detected change in state, because that is the only event previously identified.

99.   Based on this understanding, it is clear that the Claimed system must make a "backward" inference, that is, it must infer the occurrence of an event occurring within the system characterized by the detected change in state. The Claimed invention is not making a "forward" inference, that is, inferring what the next action should be.

100.   The '089 Application does not disclose "backward" inferring. The '089 Application teaches an event-driven system that, through the use of logical rules, directs next steps based on events. Thus, to the extent the '089 Application makes any disclosure of "inferring," this disclosure is limited to forward-looking inferring, i.e. taking a condition, applying logical rules, and determining a next step. For example, the specification describes some rules that may be applied by an inference engine such as "IF proposal exists for product THEN send letter; IF insufficient down payment THEN no letter; IF location is Midwest THEN send letter." '525 Patent, col. 34 ln. 32-34.

101.   All of these examples are using rules to determine the next steps to be taken; none add new knowledge to the system.

102.   Therefore, the '089 Application does not convey to one skilled in the art that the inventors of the '525 Patent possessed a system capable of "backward" inferring at the time of filing the '089 Application.

103.   I understand that the Court construed "expert system" as "a software program operating on a set of rules which can be automatically updated based upon successful sales approaches."

104.   To the extent the meaning of the term "expert system" in the Claims is limited to the expert system as construed by the Court, this "expert system" appears adequately described in the '089 Application.

105.   This understanding of an "expert system" is not consistent with the understanding of an "expert system" that one skilled in the art would have had in 1995.

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106.   In 1995, one skilled in the art would have understood an expert system to be comprised of: (1) a knowledge base and (2) an inference engine. The knowledge base further includes: (1) facts and (2) rules. The inference engine of this expert system uses rules to add data to the system or to gain knowledge, not to identify next steps to take algorithmically. Susan J. Hazen, Sachi Sakthivel & John R. Slater, On Selecting Appropriate Technology for Knowledge Systems; Expert Systems and Artificial Neural Network Knowledge System Technologies, 44 J. of Sys. Mgmt. 10 (1993). Furthermore, no mention is made in the specification that the inference engine was to be forward chaining or backward chaining.

107.   The '089 Application does not convey to one skilled in the art that the inventors of the '525 Patent possessed an expert system as would have been understood by one skilled in the art in 1995.

108.   My analysis is based on the Court's Claim construction, the '525 Patent, and the "Encyclopedia of Computer Science" by Ralston and Reilly 1993.

Dr. Cook provides further opinions related to lack of enablement in a later section (pp. 24-25, paras. 109-114, quoted):

109.   It is my opinion that U.S. Application No. 08/550,089 ("the '089 Application"), which issued as the '525 Patent, does not enable a person of ordinary skill in the art to make and use the invention Claimed in the '525 Patent. As a result, the asserted Claims lack adequate enabling disclosure.

110.   In reaching my conclusion, I reviewed the entire '089 Application, including its specification and the originally submitted Claims. The specification in the application is essentially the same as the specification that issued in the '525 Patent.

111.   The '089 Application does not describe: (1) a system that "infers"; (2) "backward" inferring, i.e. inferring that an event has occurred in the past (as opposed to "forward" inferring, i.e., inferring what the next action should be); or (3) an expert system as understood by one skilled in the art in 1995 in sufficient detail to enable one skilled in the art to make and use a system with any of these three elements.

112.   As discussed in detail above, the specification of the '089 Application does not disclose or describe any of these elements. In addition, none of these elements, as construed by the Court and as they are used in the Claims, would be readily understood by one skilled in the art in 1995.

113.   Because the use of these terms in the '525 Patent and as construed by the Court differs from the understanding of one skilled in the art, it is not possible to make and use the invention without a substantial disclosure of specifically how to make and use the invention in accordance with the patentee's definitions of these terms.

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114.   Thus, it is my opinion that one skilled in the art would need a significantly more detailed specification in order to make and use: (1) a system that "infers"; (2) backward inferring, i.e. inferring an event that occurred in the past; or (3) an expert system as understood by one skilled in the art in 1995.

V.B.2 My Opinion regarding Lack of Written Description Support

Dr. Cook's arguments regarding Lack of Written Description fall into three areas,

involving: (i) inferring, (ii) backwards inference, and (iii) expert system.

Inferring

Dr. Cook begins by stating:

> 90.   The Court construed "inferring" as the "logical process by which a factual conclusion is derived from known facts by the application of logical rules".

Dr. Cook further states his understanding of the term "inferring" as follows:

> 91.   My understanding of the meaning of "inferring," based on the Claim language, the Court's construction, and my knowledge and understanding of the art is that "inferring" requires the addition of facts or knowledge to the system, i.e. the derivation of new facts, previously unknown to the system, based on the application of logical rules to known facts.

> 92.   This understanding of the term "inferring" is consistent with the typical understanding of those with ordinary skill in the art when the application was filed and today. See, e.g., "Inference: The logical process by which new facts are derived from known facts by the application of inference rules." Foldoc On Line Dictionary of Computing, 2008, www.foldoc.org; "Inference: A process of deriving new facts from facts already known, by means of the rules of logic." CCI Computer, Online HighTec Dictionary, 2008 www.computeruser.com.

Dr. Cook's "understanding" of "infer" appears to differ from the Court's construction.

For purposes of this Report, I will abide by the Court's construction.

In my opinion, Dr. Cook's "understanding" of "inferring" is a narrower usage of the term

"inferring" as understood by those having ordinary skill in the art at the time of the '525

invention. At that time, it was understood that rules of the form *A implies B* (sometimes written

A => B or IF A THEN B) could include not just facts but additional rules as arguments (e.g., A

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=> (B => C)); but also more broadly within computer science that such rules could include

actions as consequences, as in *IF condition, THEN action.*

Dr. Cook argues in paragraphs related to Lack of Written Description Support as follows:

> 16.   The application that ultimately issued as the '525 Patent does not provide
> adequate written description (i) to demonstrate that the inventors had possession of the
> Claimed invention, or (ii) to enable the Claimed invention. In particular, there is no
> disclosure for (i) what "inferring" is, and (ii) how "inferring" is made or used in the
> invention of the application as filed.

> 17.   The '525 Patent discloses no working or even prophetic examples of a sales
> system or method that infers the occurrence of an event, that is, the logical process by
> which the fact that the event has occurred is derived by application of logical rules.

> 88.   The '089 Application does not convey to one skilled in the art that the '525
> inventors possessed: (1) a system that "infers"; (2) "backward" inferring, i.e. inferring
> that an event has occurred in the past (as opposed to "forward" inferring, i.e., inferring
> what the next action should be); or (3) an expert system as understood by one skilled in
> the art in 1995.

> 89.   I have noted that the critical term "infer" – in any of its verb forms – does not
> appear anywhere in the '089 Application.

> 93.   The '089 Application does not include any disclosure related to using rules to
> acquire additional knowledge. In contrast, the '089 Application only discloses the use of
> standard conditional logic by the system. Standard conditional logic consists of if/then
> statements of the form if condition x is true then take step y. More specifically, the
> system only applies logical rules to known facts in order to algorithmically direct next
> steps. It does not, however, apply logical rules to known facts to derive factual
> conclusions, i.e. to add new knowledge to the system.

In response, I argue as follows:

The root term "infer-" occurs 52 times in the '525 Patent in these forms: *inference*

engine, inferring occurrence of an event, inferred event, inferred context. One of ordinary skill

in the art with knowledge of inference systems as understood at the time of the '525 Patent

would have recognized the description.

> "The above example [which used IF THEN rules] is provided as a simplified illustration
> of the general operation of an expert system using an inference engine" ['525 Patent,
> 34:41-43]

as, at least in part, using logical inference rules to encode an expert's knowledge and would have been able to construct an inference engine.

Issues regarding the interpretation of the term expert system and whether expert systems could learn are covered in the section on expert systems.   Related, Dr. Cook argues that the '525 Patent does not support using rules to derive additional facts that can be added to the system

> "93. ...More specifically, the system only applies logical rules to known facts in order to algorithmically direct next steps. It does not, however, apply logical rules to known facts to derive factual conclusions, i.e. to add new knowledge to the system. [Cook Report, p22]

I did not discover explicit mention of any such limitation nor does Dr. Cook indicate why he believes the system is so limited.   As I read the specification regarding sales events and application events, it appeared to me that some of the latter could involve inference steps of deriving additional information from existing information, the additional information then triggering further events.

Further, in the USPTO's March 3, 1998 Office Action, the Examiner objected to the specification under 35 US.C. § 112, including because the Examiner asserted that the "recognition feature of the Specification appears to be contrary to the system recited in Claims 1, 13, and 17, in which the event manager 'detect[s] one or more changes in state characteristic of an event ... [and] infer[s] occurrence of the event.'" The Applicant filed a July 14, 1998 response to this Office Action, which included discussing the language in page 15 (as filed) of the Specification as disclosing how rules and state information in the event manager database are utilized in view of current events in order to infer an event as described in Claims 1, 13 and 17. In the Office Action dated September 15, 1998, the Examiner accepted the Applicant's explanations and withdrew the Section 112 rejections.

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Although the Examiner's Section 112 rejections were directed to enablement, it is difficult to imagine how the Applicant could provide an enabling disclosure of inferring (as acknowledged by the Examiner) without there being a written description of it in the Specification.

Backward Inference

Regarding "backward" inference, Dr. Cook argues:

> 95.   Moreover, to the extent the '089 Application contains any disclosure relating to inferring, it does not disclose any system, feature, or function relating to any backward inference, i.e. inferring that an event has occurred, which is literally required by the Claims.

> 96.   The Claims of the '525 Patent first call out "an event occurring within the system," then require that the system infer "occurrence of the event." I understand from counsel that, due to the requirements for antecedent basis in patent Claim drafting, the occurrence of the event inferred must necessarily be the event occurring within the system that is characterized by the detected change in state.

> 97.   I understand that under patent law, the antecedent basis requirement requires that any item that is called out specifically in a Claim by a definite object (e.g. "the"), must have previously been identified as an element of the Claimed invention and introduced by an indefinite article (e.g., "a").

> 98.   Based on the antecedent basis requirement, when the Claim requires that the system infer the occurrence of "the" event, the event that is inferred must be the event occurring within the system characterized by the detected change in state, because that is the only event previously identified.

> 99.   Based on this understanding, it is clear that the Claimed system must make a "backward" inference, that is, it must infer the occurrence of an event occurring within the system characterized by the detected change in state. The Claimed invention is not making a "forward" inference, that is, inferring what the next action should be.

> 100.   The '089 Application does not disclose "backward" inferring. The '089 Application teaches an event-driven system that, through the use of logical rules, directs next steps based on events. Thus, to the extent the '089 Application makes any disclosure of "inferring," this disclosure is limited to forward-looking inferring, i.e. taking a condition, applying logical rules, and determining a next step. For example, the specification describes some rules that may be applied by an inference engine such as "IF proposal exists for product THEN send letter; IF insufficient down payment THEN no letter; IF location is Midwest THEN send letter." '525 Patent, col. 34 ln. 32-34.

101.   All of these examples are using rules to determine the next steps to be taken; none add new knowledge to the system.

102.   Therefore, the '089 Application does not convey to one skilled in the art that the inventors of the '525 Patent possessed a system capable of "backward" inferring at the time of filing the '089 Application.

According to known prior art at the time of the '525 invention, an inference engine, depending on its implementation and control structure, could perform so called "backward chaining" and "forward chaining" as understood in the art at the time of the '525 Patent. Wikipedia describes these techniques in terms that would have been recognizable to practitioners at the time of the '525 invention as follows, which accords with my own personal experience and understanding of these terms:

"Forward chaining is one of the two main methods of reasoning when using inference rules (in artificial intelligence). It is referred in philosophical circle as modus ponens. The opposite of forward chaining is backward chaining. Forward chaining starts with the available data and uses inference rules to extract more data (from an end user for example) until a goal is reached. An inference engine using forward chaining searches the inference rules until it finds one where the antecedent (If clause) is known to be true. When found it can conclude, or infer, the consequent (Then clause), resulting in the addition of new information to its data. Inference engines will iterate through this process until a goal is reached." [Wikipedia entry for Forward Chaining, http://en.wikipedia.org/wiki/Forward_chaining]

"Backward chaining starts with a list of goals (or a hypothesis) and works backwards from the consequent to the antecedent to see if there is data available that will support any of these consequents. An inference engine using backward chaining would search the inference rules until it finds one which has a consequent (Then clause) that matches a desired goal. If the antecedent (If clause) of that rule is not known to be true, then it is added to the list of goals (in order for your goal to be confirmed you must also provide data that confirms this new rule). "[Wikipedia entry for Backward Chaining, http://en.wikipedia.org/wiki/Backward_chaining]

Also understood at the time of the '525 Patent was how to trigger a rule if its antecedents (conditions in the IF clause) became true due to actions taken by events inside or outside the system. As described in Section I.F.2, mechanisms like operating system interrupts or database triggers were known mechanisms implementing this capability at the time of the '525 Patent as

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was the technique used by the prior art Spezialetti Reference for monitoring for complex events in distributed environments.

It seems clear to me that, if an external event occurred, that state change could trigger certain rules that could add information to the '525 system of sales modules or take actions. The new information inferred or the changes due to actions could internally trigger other rules. It seems clear to me that the '525 system could make so-called forward inferences or so-called backward inferences as they are described by Dr. Cook – at least I see no proof to the contrary that such limitations would exist, given the prior art at the time of the '525 Patent.

Expert System

Dr. Cook correctly reports:

> 103.   I understand that the Court construed "expert system" as "a software program operating on a set of rules which can be automatically updated based upon successful sales approaches."

Dr. Cook in paragraph 104 seems to believe that the court's definition of expert system is consistent with the way the term is used in the patent. I agree. And as the Court's construction is controlling, there appears to be no further basis for Dr. Cook to continue with this assertion.

> 104.   To the extent the meaning of the term "expert system" in the Claims is limited to the expert system as construed by the Court, this "expert system" appears adequately described in the '089 Application.

Dr. Cook then argues:

> 105.   This understanding of an "expert system" is not consistent with the understanding of an "expert system" that one skilled in the art would have had in 1995.

> 106.   In 1995, one skilled in the art would have understood an expert system to be comprised of: (1) a knowledge base and (2) an inference engine. The knowledge base further includes: (1) facts and (2) rules. The inference engine of this expert system uses rules to add data to the system or to gain knowledge, not to identify next steps to take algorithmically. Susan J. Hazen, Sachi Sakthivel & John R. Slater, On Selecting Appropriate Technology for Knowledge Systems; Expert Systems and Artificial Neural Network Knowledge System Technologies, 44 J. of Sys. Mgmt. 10 (1993). Furthermore,

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no mention is made in the specification that the inference engine was to be forward chaining or backward chaining.

107.   The '089 Application does not convey to one skilled in the art that the inventors of the '525 Patent possessed an expert system as would have been understood by one skilled in the art in 1995.

At this point, I disagree and Dr. Cook's opinion is inconsistent with the Court's claim construction ruling which defines the term as it would be understood by one of ordinary skill in the art. At the time of the '525 Patent, and continuing to the present time, the term *expert system* had two inter-consistent, widely used meanings. The narrower interpretation is consistent with Dr. Cook's inference engine plus knowledge base of facts and rules. The broader meaning can be found in the first paragraph of the Wikipedia article on Expert Systems, repeated below:

> "An expert system is software that attempts to reproduce the performance of one or more human experts, most commonly in a specific problem domain, and is a traditional application and/or subfield of artificial intelligence. A wide variety of methods can be used to simulate the performance of the expert however common to most or all are 1) the creation of a so-called "knowledgebase" which uses some knowledge representation formalism to capture the Subject Matter Experts (SME) knowledge and 2) a process of gathering that knowledge from the SME and codifying it according to the formalism, which is called knowledge engineering. Expert systems may or may not have learning components but a third common element is that once the system is developed it is proven by being placed in the same real world problem solving situation as the human SME, typically as an aid to human workers or a supplement to some information system."
> [Wikipedia, "Expert System," http://en.wikipedia.org/wiki/Expert_system]

The narrower definition is consistent with the broader definition as describing one class of expert system. This broader definition admits a wider variety of knowledge representation formalisms and also admits learning techniques. Both definitions are consistent with the '525 Patent specification. For instance, from

> "The above example [which used IF THEN rules] is provided as a simplified illustration of the general operation of an expert system using an inference engine" ['525 Patent, 34:41-43]

it is clear than an expert system might use an inference engine. But it might also use (known) learning technologies as described in the '525 Patent specification:

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"FIG. 22 illustrates an alternative embodiment which incorporates an expert system 2002 which allows the system to learn successful sales approaches and automatically implement such approaches in future sales process. For example, the expert sales system may be programmed to monitor the sales processes for desired (successful) sales events. These events may be include, for example, a customer purchase of a product, a repeat sale to a customer, a large number of leads being qualified to potential customer, and the like. These events represent successes in the sales process. When a successful event occurs, the system preferably identifies the events or actions leading to the desired outcome. The expert system may then dynamically alter the rules in the event manger database 1904 to automatically initiate (or set different values for) the identified events or actions in similar subsequent sales activity." ['525 Patent, 33:32-47]

The Cragun '868 Patent (asserted as prior art) describes using neural network learning within a subcomponent of a sales system to automatically select and improve sales promotions, and other learning techniques were also known at the time of the '525 invention.

Thus, the '525 Patent specification uses the term expert system consistently with known art at the time of the invention, contrary to Dr. Cook's opinion.

In summary, I conclude that the '525 Patent provided adequate written description in that "the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now Claimed." (See Section IV, the Written Description legal principal).

V.B.3 My Opinion regarding Lack of Enablement

It is my opinion that one of ordinary skill in the art at the time of the '525 invention could have used the '525 invention. Mainstream vendors today successfully sell integrated sales force application suite systems that the '525 Patent arguably anticipated and that enterprise customers presumably learn to use – for instance, Oracle E-Business Suite which today includes Customer Relationship Management, Advanced Procurement, Contracts, HRM, and related products (http://www.oracle.com/applications/suites.html) providing a common interface to a suite of

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tools that a sales and marketing organization can use to share data, information and knowledge across business functions and application boundaries. Oracle also vends Oracle Business Rules as a component product in its supporting Fusion Middleware (http://www.oracle.com/technology/products/ias/business_rules/index.html), which provides decision support including inference rules.

It is further my opinion that one of ordinary skill in the art at the time of the '525 invention could have constructed the '525 invention given the specification along with their knowledge of enabling technologies referenced in the specification. Dr. Cook and I concur on the level of skill in the art as

> "a person who has, through education or practical experience, the equivalent of a Bachelor's Degree in Computer Science and 2-3 years of experience in programming business process automation and information systems." (See Section II)

Dr. Cook also states:

> "52.   More specifically, it is my opinion that the person of ordinary skill in the art of the Claimed subject matter of the '525 Patent has practical experience or training so that she or he could understand the architecture, development, implementation of the systems of the '525 Patent, and execution of computer systems that perform the methods of the '525 Patent." [Dr. Cook, para. 52]

thus seeming to agree that the '525 Patent could be enabled by one of ordinary skill in the art using then known art.

It is my opinion that one of ordinary skill in the art at the time of the '525 invention would have understood the problems the invention aimed to solve as described in the section *Background of the Invention* ['525 Patent, column 1, quoted in Section I.G]. That person would have been familiar with the enabling technologies that the '525 Patent mentions as useful that needed to be integrated together to solve the problem (listed in part in Section I.G.2, first paragraph). That person would further have understood, with considerable straightforward work

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but not undue experimentation, how to develop a suite of sales force subsystems as described at length and in considerable detail in the patent specification ('525 Patent, 3:51-16:20 and corresponding figures).

What we would today call middleware supporting modules are described in the remainder of the patent ['525 Patent, 16:21-35:49]. Principle among these, the '525 Patent describes an event manager as integrating other modules of the system. For instance,

> "The proposal and presentation modules 412 and 414 are integrated with the rest of the system via the event manager 401A." ['525 Patent, 17:26-28]

The patent contains several references to and examples of the event manager recognizing events in one or more systems, and sometimes inferring additional information that can trigger additional event recognition, or sometimes taking action, possibly in other modules. The centrality of this event manager (which functions to integrate modules of the sales force automation system be enabling them to share information and react to changes) is clear from the '525 Patent in that in the first paragraph of the *Summary of the Invention*, the event manager is described:

> "The system includes a plurality of subsystems each corresponding to a phase of the sales process to facilitate one or more events occurring in the corresponding phase of the sales process. The system also includes an event manager coupled to each of the subsystems which recognizes an event carried out by one of the subsystems, determine the context in which the recognized event occurs and automatically initiate an operation in a another subsystem to facilitate a new event in the sales process on the basis of the context in which the recognized event occurs. ['525 Patent, 2:25-34]

The latter half of the patent describes the event manager and associated functions in sufficient detail for enablement, especially given that the '525 Patent uses well-known art terms (as described in Section I.G) which would help one of ordinary skill in the art to enable the function of this subsystem.

The only specific argument Dr. Cook provides regarding Lack of Enablement is found in his expert report in paragraph 111:

> "111. The '089 Application does not describe: (1) a system that "infers"; (2) "backward" inferring, i.e. inferring that an event has occurred in the past (as opposed to "forward" inferring, i.e., inferring what the next action should be); or (3) an expert system as understood by one skilled in the art in 1995 in sufficient detail to enable one skilled in the art to make and use a system with any of these three elements."

My conclusions regarding these areas (inferring, backward inferring, and expert system) were already covered in Section V.B.2 and are not repeated here since it should be clear that I believe the '525 Patent, coupled with known art at the time, provides enough description to enable a system as described in the '525 Patent specification.

Summarizing, it is my conclusion that the '525 Patent specification provided sufficient depth, when coupled with known art at the time of invention, for one of ordinary skill in the art to construct the system described in the '525 Patent specification, and so the patent's specification passes the enablement test.

V.C Anticipation (35 U.S.C. § 102) and Obviousness (35 U.S.C. § 103)

V.C.1 Dr. Cook's Opinion regarding Anticipation and Obviousness (quoted)

Dr. Cook summarizes his conclusions related to written anticipation and obviousness together (pp. 4-5 in paras. 19-28).

> 19.   Filepp et al. U.S. Pat. No. 5,347,632 anticipates asserted Claims 1-3, 5, 7, 20, 24, 34, and 40.

> 20.   Long et al. U.S. Pat. No. 5,117,354 anticipates asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37 and 40.

> 21.   Lockwood U.S. Pat. No. 4,567,359 anticipates asserted 1-3, 5-7, 20, 24, 34, and 40.

22.   Deaton U.S. Pat. No. 5,201,010 anticipates asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37 and 40.

23.   Cragun U.S. Pat. No. 5,774,868 anticipates asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37 and 40.

24.   Gorog U.S. Pat. No. 4,947,028 anticipates asserted Claims 1-3, 5-7, 20, 24, 34, and 40.

25.   Stone, Robert W. & Good, David J. Expert Systems and Sales Strategies, Association of Computer Machinery 089791-416-3/90/0010/0052 anticipates asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37 and 40.

26.   Spezialetti, Madalene, An Approach to Reducing Delays in Recognizing Distributed Event Occurrences, Association of Computer Machinery 0-89791-457-0/91/0011/0155 renders all Claims obvious, either alone or in combination with other references herein.

27.   It also would have been obvious for one of ordinary skill to practice the asserted Claims in view of any one of, or a combination of, U.S. Pat. No. 5,347,632, U.S. Pat. No. 5,117,354, U.S. Pat. No. 4,567,359, U.S. Pat. No. 5,201,010, U.S. Pat. No. 5,774,868, U.S. Pat. No. 4,947,028, Stone, Robert W. & Good, David J. Expert Systems and Sales Strategies, Association of Computer Machinery 089791-416-3/90/0010/0052, Spezialetti, Madalene: An Approach to Reducing Delays in Recognizing Distributed Event Occurrences, Association of Computer Machinery 0-89791-457-0/91/0011/0155.

28.   Further, the above identified prior art could be combined with one or more other pieces of prior art, including patents and publications from the sales force automation industry, to practice the asserted Claims. Among other reasons, because such prior art was known to those practicing in the other fields such as the operating systems and event driven real-time systems and because it was directed to solving similar problems, one of ordinary skill in the art would have had sufficient teaching, suggestion, or motivation to combine such prior art with the integrated systems, e.g. as described in both Negrino references listed in Appendix B. Further, variations on existing integrated information systems based on this prior art would have been predictable to one of ordinary skill in the art, and combinations of this prior art simply reflect the use of a known technique to improve similar methods or products in the same way.

Dr. Cook provides further opinions related to anticipation and obviousness together (pp. 25-26, paras. 115-118, quoted):

115.   As I discussed above, the determination of patentability under 35 U.S.C. § 102 and § 103 requires a comparison of the Claimed subject matter with the prior art. If this comparison indicates that there are no differences between the elements of the Claimed invention and a single prior art system or reference, then the Claims are invalid under 35 U.S.C. § 102 as lacking novelty. Otherwise, it is necessary to determine if the Claimed

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subject matter would have been obvious to one of ordinary skill in the art at the time the invention was made. If so, then the Claimed subject matter is invalid under 35 U.S.C. § 103.

116.   A review of the prior art is, thus, critical to the determination of patentability. Four exemplary prior art sources include:

domestic patents;

foreign patent documents;

nonpatent literature (NPL); and

evidence of actual salesforce automation systems.

117.   Accordingly, my analysis regarding the validity of asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37, and 40-42 of the '525 Patent included a review of domestic patents, foreign patent documents, the nonpatent literature, and evidence of actual operational systems that perform the relevant methods. I considered all four sources when evaluating each of the asserted Claims.

118.   Before providing my findings regarding anticipation and obviousness for specific prior art, below I provide a synopsis of the history of the field relevant to the '525 Patent, and the state of the art when the '089 Application was filed. Although it is not comprehensive, this synopsis is intended to provide an overview of what one of ordinary skill in the art would have known at the time. The synopsis is also intended to assist the Court or the jury in understanding key events, systems, companies relevant to the '089 Application. In particular, this synopsis demonstrates that the methods and apparatus recited in the asserted Claims of the '525 Patent were simply a logical progression of event driven systems and sales force automation systems.

V.C.2 My Opinion regarding Anticipation

Dr. Cook in paragraphs 116-117 states that he reviewed certain prior art sources including domestic patents, foreign patent documents, the non-patent literature (NPL), and evidence of actual sales-force automation systems with respect to claims Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37, and 40. In his paragraphs 19-25, he lists seven of the eight prior art sources he consulted:

Filepp et al. U.S. Pat. No. 5,347,632

Long et al. U.S. Pat. No. 5,117,354

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Lockwood U.S. Pat. No. 4,567,359

Deaton U.S. Pat. No. 5,201,010

Cragun U.S. Pat. No. 5,774,868

Gorog U.S. Pat. No. 4,947,028

R. Stone and D. Good, Expert Systems and Sales Strategies, ACM 089791-416-3/90/0010/0052.

Along with '525 Claims, he believes each reference anticipated from the '525 Patent. My conclusion (based on my detailed analysis of this prior art in Section VI) is that none of these prior art references anticipates each and every element of the Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37, and 40 of the '525 Patent . See Section VI.

V.C.3 My Opinion regarding Obviousness

I understand that this is a "rebuttal" report in the sense that, from a procedural perspective, this is SFA's opportunity to have an expert rebut the Cook Report. I note however, that the Cook Report's "analysis" of obviousness is wholly sparse and conclusory, and it leaves nothing to fairly rebut.

In the sections of his expert report that summarize his arguments and conclusions (quoted above), regarding obviousness, Dr. Cook only lists two paragraphs:

26.   Spezialetti, Madalene, An Approach to Reducing Delays in Recognizing Distributed Event Occurrences, Association of Computer Machinery 0-89791-457-0/91/0011/0155 renders all Claims obvious, either alone or in combination with other references herein.

27.   It also would have been obvious for one of ordinary skill to practice the asserted Claims in view of any one of, or a combination of, U.S. Pat. No. 5,347,632, U.S. Pat. No. 5,117,354, U.S. Pat. No. 4,567,359, U.S. Pat. No. 5,201,010, U.S. Pat. No. 5,774,868, U.S. Pat. No. 4,947,028, Stone, Robert W. & Good, David J. Expert Systems and Sales Strategies, Association of Computer Machinery 089791-416-3/90/0010/0052, Spezialetti, Madalene: An Approach to Reducing Delays in Recognizing Distributed Event Occurrences, Association of Computer Machinery 0-89791-457-0/91/0011/0155.

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That is, in his analysis and summary, Dr. Cook does not provide any meaningful arguments or details for why he believes the prior art references render all Claims obvious alone or in combination. Instead, he merely asserts this, leaving his detailed arguments to the detailed prior art analysis (Dr. Cook, Expert Report pp. 28-39). However, no such detailed arguments are present in Dr. Cook's detailed prior art analysis.

It is thus my opinion that the Cook Report fails to make any meaningful or convincing showing of obviousness.

Subject to the foregoing, it is further my opinion regarding obviousness that the '525 Patent is not rendered obvious in light of the prior art cited in the Cook Report. None of those systems, taken individually or in combination, would lead toward the development of a sales-force automation system that combines a collection of sales force modules in an integrated fashion using an integration mechanism that includes event managers, inference, rules, and learning. Several of the systems listed as prior art only focus on requesting quotes and ordering goods (one narrow phase of the sales process); several have automated just that one step. By contrast, that richly interconnected application suites for sales force automation exist today (like Oracle E-business Application Suite – see Section I.G) indicates that such suites are possible but none of the prior art references do more than to identify automation of limited sales functions, and the patent itself identified that such individual, specific solutions existed and posed a problem for integration:

> "Most conventional sales systems have been implemented in a limited manner and are typically directed solely to a particular event, task or small subset of tasks in the sales process. Such systems are constructed by examining a particular sales event and by developing an automated tool to assist the salesperson confronted by the particular event. Such systems are individually developed without regard for other events occurring in the overall sales process in which the salesperson is engaged. As a result, conventional systems fail to provide full support for the salesperson." ['525 Patent, 1:10-19]

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We comment here that the Spezialetti Reference provides a framework for recognizing that events occur in a distributed environment but it is only one possible approach and that approach is limited since it does not provide a mechanism for inference, a way to assign actions related to event contexts, and is entirely unrelated to application suite integration and sales force automation. Furthermore, Dr. Cook asserts about all the other prior art references that they have a subsystem called an event manager but it is unclear and not likely than any of them use a system similar in detail to the one Spezialetti describes.

As further evidence that the event management-based application integration framework described in the '525 Patent was not obvious and that other such frameworks were possible, as described earlier in I.E, other integration frameworks for combining services or modules into a system were being developed in the early 1990s, in particular, the Object Management Group's distributed object management architecture that used a messaging bus (called Common Object Request Broker Architecture or CORBA) to send distributed messages from one component to another. At that time, the OMG integration architecture did not describe a rule-based event management service that could be used to trigger changes, infer knowledge, and learn while operating across module boundaries.

Regarding the other prior art, the Filepp patent describes the operation of the Prodigy online subscription service which is similar to describing a web browser. It is not a sales force automation system.

The other prior art references cite to patents or systems that automate one step in the sales process. Systems that provided a limited functionality for the salesperson fail to make it obvious that an integrated sales force automation system would be possible.

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My conclusion that the '525 Patent would not have been obvious in view of the prior art cited by Dr. Cook is further enunciated in Section VI which considers each prior art reference in turn. That no prior art references cite to a system that provides even close to all the elements of the '525 Patent nor do they approach in scope, breadth or technical insight a sales force automation suite that is integrated via an event manger that uses inference, rules, and learning, indicates to me that it was not obvious at the time of the invention. That systems today exist that do this and provide business rules indicate to me that the ideas in the '525 Patent make sense and provide utility.

To the extent that Dr. Cook is permitted to supplement his conclusory obviousness analysis, if permitted by the Court, I reserve the right to supplement my analysis of obviousness as well.

VI.   PRIOR ART ANALYSIS

VI.A   U.S. PATENT NO. 5,347,632 TO FILEPP (THE "FILEPP '632 PATENT")

VI.A   General Overview of the Filepp '632 Patent

Reference for the Filepp '632 Patent

- R. Filepp et al., "Reception System for an Interactive Computer Network and Method Of Operation," US Patent 5,347,632, Filed: July 28, 1989, Issued: Sep. 13, 1994

Claims at Issue

The Cook Report states that "Filepp et al U.S. Pat. No. 5,347,632 anticipates asserted Claims 1-3, 5, 7, 20, 24, 34, and 40." (Cook Report, p1)

Dr. Cook's Summary of the Filepp '632 Patent (quoted from his Expert Report)

"132. Filepp teaches an interactive computer system that enables a user to perform desired transactions such as banking and shopping. In one embodiment, a reception system, with operating software acting as an event manager, is coupled to a plurality of subsystems, such as partitioned applications and object processing means for selecting and retrieving objects, and interpreting and executing the partitioned applications.

"133. The event manager detects changes in state, such as user inputs, or physical events, such as RETURN entry, data entry, or mouse clicks in particular fields. These inputs, and data associated with these inputs, cause the event manager to interpret or infer the occurrence of events within the system. The events inferred can be that a transaction is desired, or the type of transaction desired, or the type of customer, or group of customers, to target the transaction inferred, or to target the advertisement for a desired transaction. For example, from system and input data, queues of advertisements are constructed that target either individual users, or a set of users, who fall into certain groups according to various parameters.

"134. The operation automatically initiated in a subsystem is the retrieval of specified system objects into the partitioned applications, where the retrieved objects are contextually relevant to the creation of advertisements in the partitioned applications. The retrieved objects are therefore contexts existing within the system that become relevant upon occurrence of the event. The selection of contexts for use in the creation of the advertisements are inferred by logical process and rules based at least in part on the detected changes in state. Object retrieval facilitates the action of advertisement creation within the partitioned application, and the subsequent action is based on the inferred objects retrieved."

My Summary of the Filepp '632 Patent

The Filepp '632 Patent entitled "Reception System For An Interactive Computer Network And Method Of Operation," describes technology related to the proprietary pre-Web Prodigy online Internet service, popular in the early 1990s and available to paying subscribers including home consumers using dialup lines. Like the web of today, Prodigy offered many "partitioned applications" including news, weather, travel, shopping, banking, stocks, bulletin boards, and games.

The Filepp '632 Patent describes technology comparable to a web browser, a web server and the page formats that pass between them. The Prodigy "reception system" (RS) in the

patent's title was similar to a web browser – it was loaded onto the interactive end-user's desktop personal computer for the purpose of interpreting computer instructions and blocks of data (e.g., text, images) where the instructions were used to assemble the data blocks into pages of information (like web pages) for viewing by the end-user. By doing this assembly work on the user's machine, the RS offloaded assembly of full page-level responses from the server and allowed a user's machine to cache frequently used display objects. The pages themselves could encode information content and forms that could let any subscriber check the weather, buy stock, and so on.

Dr. Cook's Analysis of the Filepp '632 Patent from his Expert Report pp. 36-37 (quoted)

131.   I considered and analyzed U.S. Patent No. 5,347,632 ("the '632 Patent"). The '632 Patent was "known or used by others" in the United States prior to the October 30, 1994 critical date for the '525 Patent.

132.   Filepp teaches an interactive computer system that enables a user to perform desired transactions such as banking and shopping. In one embodiment, a reception system, with operating software acting as an event manager, is coupled to a plurality of subsystems, such as partitioned applications and object processing means for selecting and retrieving objects, and interpreting and executing the partitioned applications.

133.   The event manager detects changes in state, such as user inputs, or physical events, such as RETURN entry, data entry, or mouse clicks in particular fields. These inputs, and data associated with these inputs, cause the event manager to interpret or infer the occurrence of events within the system. The events inferred can be that a transaction is desired, or the type of transaction desired, or the type of customer, or group of customers, to target the transaction inferred, or to target the advertisement for a desired transaction. For example, from system and input data, queues of advertisements are constructed that target either individual users, or a set of users, who fall into certain groups according to various parameters.

134.   The operation automatically initiated in a subsystem is the retrieval of specified system objects into the partitioned applications, where the retrieved objects are contextually relevant to the creation of advertisements in the partitioned applications. The retrieved objects are therefore contexts existing within the system that become relevant upon occurrence of the event. The selection of contexts for use in the creation of the advertisements are inferred by logical process and rules based at least in part on the detected changes in state. Object retrieval facilitates the action of advertisement creation

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within the partitioned application, and the subsequent action is based on the inferred objects retrieved.

135.   The foregoing description is by way of example only and is intended to illustrate, in general terms, the functionality of the described system to provide context. As I discuss in the Claim chart, it is my opinion that under the Court's constructions, the asserted Claims 1-3, 5, 7, 20, 24, 34, and 40 of the '525 Patent are anticipated by the '632 Patent under 35 U.S.C. § 102 (a) and (b). It is also my opinion that the remaining asserted Claims are obvious in view of the '632 Patent, either alone or in combination with other references herein.

136.   A detailed analysis of how this reference anticipates and/or renders obvious the asserted Claims of the '525 Patent is provided in Appendix C, page 1-50.

Relevance of the Filepp '632 Patent to the '525 Patent

Prodigy was not an integrated sales force automation application suite nor is there evidence presented by Dr. Cook that it was used to develop such a suite. While it was possible for online customers to perform financial transactions like purchasing merchandise, selling a stock, or checking on a bank balance, the subsystems (application partitions like news and weather; system-level subsystems like the RS) are not described in the Filepp '632 Patent.

The Filepp '632 Patent does not use the terms *infer* and, while the words *context* and *rule* are mentioned, they are used in senses unrelated to the '525 Patent. The term *event manager* or *event management* is not used but the term *event* is used extensively. As previously described in Section I.G, traditional event-driven programming by itself was not new or Claimed as inventive in the '525 Patent (outside the area of integrated subsystems of an application suite like a sale force automation system and not when combined with a rules and inference capability). In traditional environments (described in Section I.G), event-driven programming was a known programming paradigm used in contexts where a system receives information from the outside in an unpredictable sequence. In the case of the Filepp '632 Patent, many events handled by the RS subsystem are graphics events (e.g., the physical event of the user pressing the keyboard *Page*

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Down key is translated to the logical event of the system scrolling the display down one screen). Other mentions of event refer to the event of the user completing the filling out of a field in a form or logging out to end a session. At the system level, the RS layer used events like the arrival of an image to asynchronously assemble pages for viewing as web browsers do today.

Dr. Cook cites to such uses of events

> "The event manager detects changes in state, such as user inputs, or physical events, such as RETURN entry, data entry, or mouse clicks in particular fields. These inputs, and data associated with these inputs, cause the event manager to interpret or infer the occurrence of events within the system. The events inferred can be that a transaction is desired, ..." [Dr. Cook, para. 133]

but it is difficult to see that these events involve sales, contextual circumstances, or inference. Prodigy application screens themselves can contain application data (weather, stock, ...) but generally the Prodigy page assembly instructions do not know about the application domain data and the Filepp '632 Patent does not describe a method for users to define events, contexts, or rules that derive information from one collection of applications that add information to another application.

Dr. Cook argues (paras. 133-134) that the Prodigy system's capability to retrieve advertisements related to a user's profile indicates Prodigy used a contextual event mechanism. But the Filepp '632 Patent does not describe how the selection of advertisements occurred, and there is no indication the advertisements were related to automation of a sales force.

In summary, Dr. Cook's expert report describes the Filepp patent (paras. 31-36) in abstract terms – the reader will not realize the Filepp patent describes a general purpose system like a browser with no relationship to an integrated sales force automation application suite. He correctly points out that the RS system recognizes events like keyboard and mouse click events to take actions like paging down a display or selecting a new partitioned application from a menu

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– but this use of events is not coupled to inference, rules, or expert systems. He argues that contextual information is used to select relevant advertisements but the Filepp '632 Patent does not describe how this selection occurs.

I conclude that the Prodigy online system did not provide a system to automate a sales force, any way for sales managers to manage sales personnel in a sales force, or subsystems to facilitate the sales process of a sales force. The Filepp '632 Patent did not provide inference mechanisms or a contextual event mechanism. It used an event management system to assemble web pages and respond to graphical events but not to sales automation events.

In addition, the '632 Patent is similar to, and hence cumulative to, much of the prior art that was before the examiner during the prosecution of the '525 Patent. For example, the '632 Patent is cumulative to the following systems which, I understand, were developed by the assignee of the '525 Patent – Clear with Computers: (i) the ISIS Isuzu Sales Information System (the "ISIS System"), which was of record during the prosecution of the '525 Patent; and (ii) the Truck Force Tools Sales and Training System Operator's Manual (the "Truck Force Tools System"). In addition, the '632 Patent is cumulative to a number of the United States Patents that were considered by the examiner during the prosecution of the '525 Patent.

VI.A. Claim 1 in view of the Filepp '632 Patent

Claim 1, preamble - language

- "A computer implemented sales system used to facilitate a sales process, the system comprising:"

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Claim 1, preamble - construction

The Court has not construed this preamble. My analysis construes the terms of this preamble in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, preamble - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this preamble is as follows:

> The preamble is not a limitation,6 nonetheless abstract: "An interactive computer system that enables a user to... perform desired transactions such as banking and shopping..."
>
> Col. 6 Lines 56-61: "Services available to the user include...the purchase of items such as retail merchandise and groceries... and buy/sell orders for stocks and bonds."

Claim 1, preamble - my analysis of the Filepp '632 Patent

The Court has not construed the preamble. "A computer implemented sales system used to facilitate a sales process, the system comprising:"

It is doubtful that the Prodigy online system described in the Filepp '632 Patent is a "sales system used to facilitate a sales process." The Prodigy online subscription service as described in the Filepp '632 Patent is a proprietary predecessor of the Web and analogous to web browser and web servers. As such, others could program it for many purposes including possibly direct sales to end-user customers (banking, stocks, ...) but the Filepp '632 Patent does not describe specifically how to do this for these applications nor does it describe "a sales system used to facilitate a sales process." The '525 Patent title "Integrated Computerized Sales Force Automation System" implies a sales force. At the very beginning of the Specification (in the section *Background of the Invention*), the inventors describe the problem their invention solved:

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[6] Dr. Cook's analysis repeatedly asserts that the preambles of the Claims of the '525 Patent do not constitute limitations. No support is provided for this assertion. I understand that whether or not a preamble is limiting is a legal matter for a court to decide. This report will analyze preambles without expressing an opinion as to whether or not they are limiting. To the extent a preamble is deemed limiting, then analysis of it is pertinent. To the extent a preamble is not deemed limiting, then analysis of it appears to be extraneous.

"The present invention is directed to a <u>sales force automation</u> system and, more particularly, to an automated sales system which facilitates the sale of an item or service by <u>intelligently integrating into a single system</u> tools <u>used by a salesperson</u> in the sales process." ['525 Patent, 1:5-9]

"Most conventional sales systems have been implemented in a limited manner and are typically directed solely to a particular event, task or small subset of tasks in the sales process. Such systems are constructed by examining a particular sales event and by developing an automated tool to assist the salesperson confronted by the particular event. Such systems are individually developed without regard for other events occurring in the overall sales process in which the salesperson is engaged. As a result, conventional systems fail to provide <u>full support</u> for the salesperson." ['525 Patent, 1:10-19]

Any retail sales or banking transactions were implemented as partitioned applications in the Filepp '632 Patent with only the end-user as customer interacting with the system. The Filepp '632 Patent was not directed at helping salespersons except by automating individual steps like selling a ticket to a customer.

The Filepp '632 Patent describes a method for placing advertisements on a page but that method does not involve logical inference.

Claim 1, element a - language

- "a plurality of subsystems configured to facilitate one or more actions performed during at least one phase of the sales process; and"

Claim 1, element a - construction

- "Subsystem" - "a system that is part of a larger system";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element a - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:
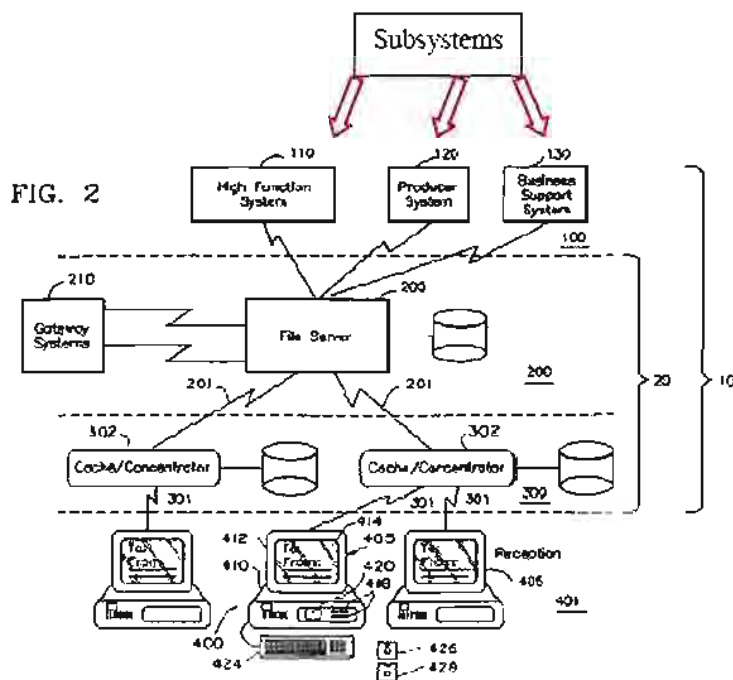
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FIG. 7

Col. 3 lines 27-34: "In preferred form the reception system further comprises...a plurality of partitioned applications; and object processing means...for selecting and retrieving objects...and interpreting and executing the partitioned applications"

Col. 5 lines 26-27: "Each application partition is an independent, self-contained unit and can operate correctly by itself."

Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

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FIG. 2

Claim 1, element a - my analysis of the Filepp '632 Patent

This Filepp '632 Patent does not perform this Claim element in full: "a plurality of subsystems configured to facilitate one or more actions performed during at least one phase of the sales process;"

This Report does not take issue with the Cook Report's assertion that the Filepp '632 Patent discloses a plurality of subsystems. Nor do I disagree that several partitioned application processes can execute in this environment. However, the Prodigy online subscription service described in the Filepp '632 Patent was not designed "to facilitate one or more actions performed during at least one phase of the sales process." Some partitioned applications built for Prodigy could be used by end-users to purchase retail items and make airline reservations, but, the Filepp '632 Patent does not describe details of these partitioned applications or how partitioned applications can be organized into phases.

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Claim 1, element b - language

- "an event manager, coupled to the subsystems, the event manager detecting one or more changes in state characteristic of an event occurring within the system,"

Claim 1, element b - construction

- "Subsystem" - "a system that is part of a larger system";

- "Event manager" - "hardware and/or software";

- "Changes in state characteristic of an event" - "a change in a unique configuration of information within the system that is indicative of the occurrence of an event within the system"

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element b - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

FIG. 7

Col. 82 lines 30-59: "Again with reference to FIG. 7, native software 420 ... is composed of two components: the service software 430 and the operating environment 450. ... Service software 430 provides functions specific to providing interaction between the user and interactive network 10...

Service software 430 is comprised of modules, which are device independent software components that together obtain, interpret and store partitioned applications existing as a collection of objects. The functions performed by, and the relationship between, the service software 430 module is shown in FIG. 8 and discussed further below."
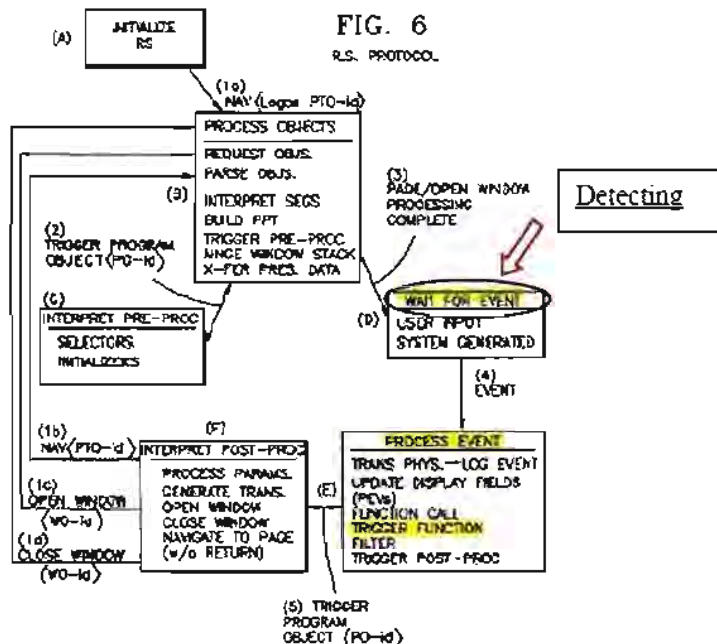
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Col. 83 lines 12-21: "RS native software provides a virtual machine interface for partitioned applications, such that all objects comprising partitioned applications "see" the same machine. RS native software provides support for the following functions: (1) keyboard and mouse input; (2) text and graphics display; (3) application interpretation; (4) application database management; (5) local application storage; (6) network and link level communications; (7) user activity data collection; and (8) advertisement management."

Col. 8 lines 9-14: "The RS 400 is the point of application session control because it has the ability to select and randomly access objects representing all or part of partitioned applications and their data. RS 400 processes objects according to information contained therein and events created by the user on personal computer 405."

Col. 3 lines 27-34: "In preferred form the reception system further comprises… objects comprising a plurality of partitioned applications; and object processing means…for selecting and retrieving objects…and interpreting and executing the partitioned applications"

Col. 6 lines 3-9: "The RS 400 supports a protocol by which the user and the partitioned applications communicate. All partitioned applications are designed knowing that this protocol will be supported in RS 400. Hence, replication of the protocol in each partitioned application is avoided, thereby minimizing the size of the partitioned application."

Col. 101 lines 53-54: "receiving requests for partitioned applications at the reception system."

FIG. 6
R.S. PROTOCOL

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Claim 1, element b - my analysis of the Filepp '632 Patent

The Filepp '632 Patent performs this Claim element: "an event manager, coupled to the subsystems, the event manager detecting one or more changes in state characteristic of an event occurring within the system."

Claim 1, element c - language

- "Inferring occurrence of the event and a context in which the event occurred based at least in part on the detected changes in state, and"
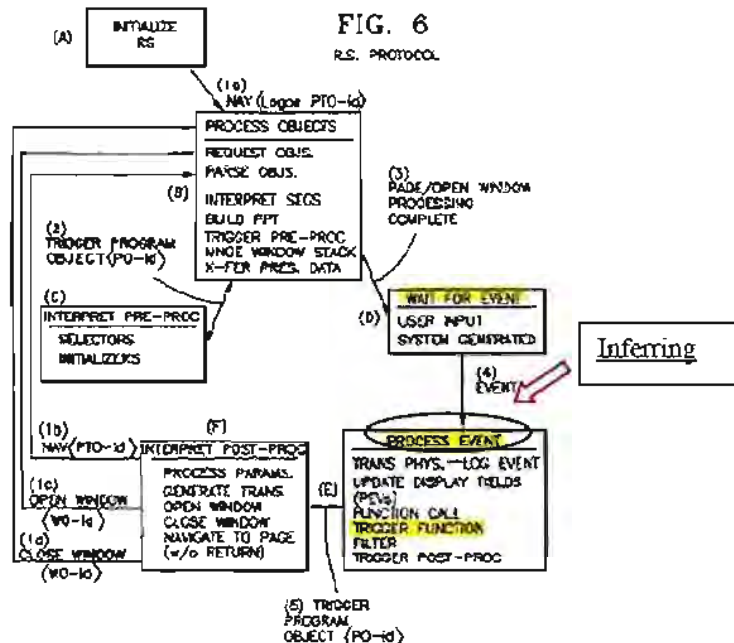
Claim 1, element c - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

- "Inferring occurrence of an event" - "logical process by which the fact that an event has occurred is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element c - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

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FIG. 6

R.S. PROTOCOL

Inferring

Col. 14 lines 52-55: "Program events will be specified in logical terms and will be mapped by the reception system to specific physical triggers..."

Col. 81 lines 43-51: "Certain inputs, such as RETURN or mouse clicks in particular fields, are mapped to logical events by keyboard manager 434, which are called completion (or commit) events. Completion events signify the partitioned application and trigger a partition level and/or page level post-processor to process the 'action' parameters associated with the user's selection and commit event."

Col. 39 lines 60-66: "Reception system is aware of the occurrence of physical events during the...interactive sessions. When a physical event such as the depression of a ...key corresponds to a logical event such as the completion of data entry in a field..."

Col. 73 lines 52-64: "Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 [reception system] to interpret events and trigger preprocessors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed."

Col. 5, line 55 – Col. 6 line 9: "Objects carry application programs and information for display at monitor screen 414 of RS 400. Application program objects, called preprocessor and post-processors, set up the environment for the user's interaction with network 10 and respond to events created when the user inputs information at keyboard 424 of RS 400. Such events typically trigger a program object to be processed, causing one of the following: sending of transactional information to the coapplications in one

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layer of the network 10; the receiving of information for use in programs or for presentation in application-dependent fields on monitor screen 414; or the requesting of a new object to be processed by RS 400. Such objects may be part of the same application or a completely new application. The RS 400 supports a protocol by which the user and the partitioned applications communicate. All partitioned applications are designed knowing that this protocol will be supported in RS 400. Hence, replication of the protocol in each partitioned application is avoided, thereby minimizing the size of the partitioned application."

Col. 6 lines 10-12: RS 400 includes a means to communicate with network 10 to retrieve objects in response to events occurring at RS 400 and to send and receive messages.

Col. 7 lines 35-46: Objects may contain: control information; program instruction to set up an application processing environment and to process user or network created events; information about what is to be displayed and how it is to be displayed; references to programs to be interpretively executed; and references to other objects, which may be called based upon certain conditions or the occurrence of certain events at the user's personal computer, resulting in the selection and retrieval of other partitioned applications packaged as objects.

Col. 8 lines 2-8: If such objects are requested by the RS 400, the cache/concentrator 302 automatically requests the object from file server 205. The requested object is routed back to the requesting cache/concentrator 302, which automatically routes it to the communications line on which the request was originally made, from which it is received by the RS 400.

Col. 9, lines 35-47: Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters.

Col. 81 lines 15-22: "This feature enables RS 400 to conditionally deliver information to the user base upon predetermined parameters, such as his personal demographics or locale. For example, the parameters specified may be the transaction codes required to retrieve the user's age, sex, and personal interest codes from records contained in user profiles stored at the switch/file server layer 200."

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Claim 1, element c – my analysis of the Filepp '632 Patent

The Filepp '632 Patent does not perform this Claim element: "Inferring occurrence of the event and a context in which the event occurred based at least in part on the detected changes in state,"

The Filepp '632 event manager implements traditional event-driven programming paradigm as described in Section I.E.2. and does not describe inferring, context, or rules.

> "Program call segments 532 are used to invoke programs. Program events will be specified in logical terms and will be mapped by the reception system native software 420 to specific physical triggers (e.g., the "logical" event end of page may map to the physical <ENTER> key). The logical event to be completed to initiate the program is specified in a one-byte token within the segment." [Filepp Patent, 14:50-57]

> "RECEPTION SYSTEM OPERATION

> RS 400 of computer system network 10 use software called native code modules (to be described below) to enable the user to select options and functions presented on the monitor of personal computer 405, to execute partitioned applications and to process user created events, enabling the partitioned application to interact with interactive system 10. Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 to interpret events and trigger pre-processors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed. For example, the user may select a particular option, such as opening on closing window partition 275, which is present on the monitor and follow the selection with a completion key stroke, such as ENTER. When the completion keystroke is made, the selection is translated into a logical event that triggers the execution of a post-processor, (i.e., a partitioned application program object) to process the contents of the field.

> Functions supporting the user-partitioned application interface can be performed using the command bar 290, or its equivalent using pull down windows or an overlapping cascade of windows. These functions can be implemented as part of the RS native functions or can be treated as another partition(s) defined for every page for which an appropriate set of supporting objects exist and remain resident at RS 400. If the functions are part of RS 400, they can be altered or extended by verbs defined in the RS virtual machine that permit the execution of program objects to be triggered when certain functions are called, providing maximum flexibility." [73:45-74:63]

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The event system of the Filepp '632 Patent does not appear to implement inferences or condition-action rules. This Report takes issue with the Cook Report's unsupported assertion that the Filepp '632 Patent discloses inferring occurrence of a event (i.e., a "logical process by which the fact that an event has occurred is derived by application of logical rules") based at least in part on detected changes in state. In addition, this Report takes issue with the Cook Report's unsupported assertion that the Filepp '632 Patent discloses inferring the context in which an event occurred based at least in part on detected changes in state (i.e., a "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules").

Without limitation, the Cook Report's citations to the Filepp '632 Patent do not disclose the foregoing. For example, they disclose an event manager that, for instance, maps inputs (i.e., physical events like keyboard and mouse events) to logical events (like scroll) as occur in many prior art event-driven systems (see Section I.G).

Further, the Filepp '632 Patent's use of user demographic profiles does not constitute inferring context, i.e., "information already existing within the system that becomes relevant upon the occurrence of an event" based upon changes in state characteristics since no disclosure of this element is apparent. The Filepp '632 Patent does not describe how the construction or selection of advertisements occurred, and there is no indication the advertisements were related to automation of a sales force.

Claim 1, element d - language

- "automatically initiating an operation in one or more particular subsystems of the computer to facilitate a new action based on the inferred context."
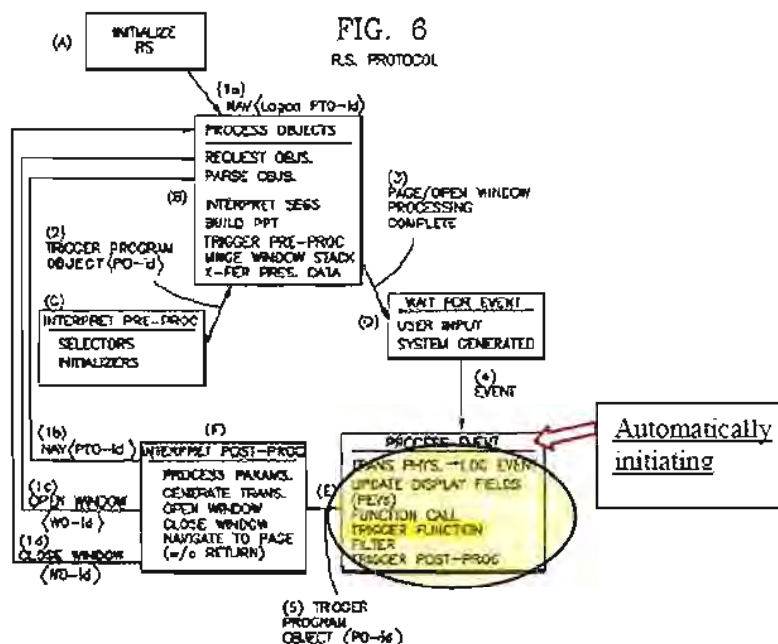
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Claim 1, element d - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Subsystem" - "a system that is part of a larger system";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules."

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element d - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

FIG. 6
R.S. PROTOCOL

Col. 74 lines 59-62: "If the functions are part of [reception system] they can be altered or extended... [to] permit the execution of program objects to be triggered..."

Col. 8 lines 24-27: "selecting another partitioned application to be processed upon a user generated completion event for the current partitioned application."

Col. 99 lines 12-16: The reception system comprising: "object processing means responsive to the input means for selectively retrieving and interpreting objects to extract data and program instructions for composing and generating the partitioned applications…"
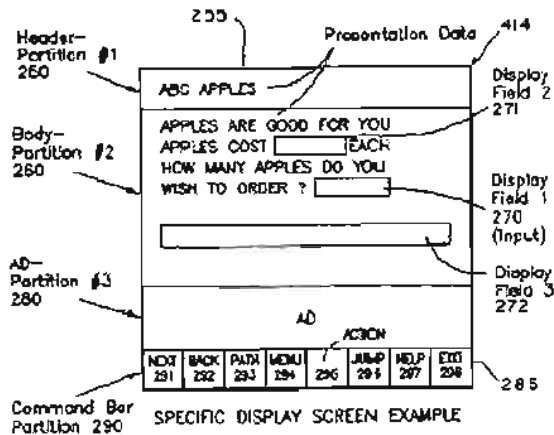

FIG. 3b

Col. 95 line 67- Col. 96 line 3: "The page illustrated in FIG. 3(b) corresponds to a partitioned application that permit's [sic] a personal computer user to purchase apples. It shows how the monitor screen 414 of personal computer 405 might appear to the user."

Col. 9, lines 35-47: "Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters."

Claim 1, element d - my analysis of the Filepp '632 Patent

The Filepp '632 Patent does not perform this Claim element: "automatically initiating an operation in one or more particular subsystems of the computer to facilitate a new action based on the inferred context."

This Report does not take issue with the Cook Report's assertion that the Filepp '632 Patent discloses a system that can initiate an operation in one or more particular subsystems of the computer to facilitate a new action. The Filepp '632 Patent (and more specifically the

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citations Dr. Cook provides) does not provide enough detail to know whether these actions are initiated automatically.   Furthermore, this Report does take issue with the Cook Report's unsupported assertion that the Filepp '632 Patent discloses automatically initiating an operation in one or more particular subsystems of the computer to facilitate a new action "based on the inferred context."   Without limitation, as noted above, the Filepp '632 Patent does not disclose inferring context. Likewise, the Filepp '632 Patent does not disclose automated operations based upon inferred context.

VI.A. Claim 2 in view of the Filepp '632 Patent

Claim 2 - language

- "[A system as recited in Claim 1,] wherein the inferred context includes information related to at least one phase of the sales process."

Claim 2 - construction

- "context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 2 - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 1 chart incorporated by reference]

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CONFIDENTIAL

Col. 73 lines 52-64: "Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 [reception system] to interpret events and trigger preprocessors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed."

Col. 5, line 55 – Col. 6 line 9: "Objects carry application programs and information for display at monitor screen 414 of RS 400. Application program objects, called preprocessor and post-processors, set up the environment for the user's interaction with network 10 and respond to events created when the user inputs information at keyboard 424 of RS 400. Such events typically trigger a program object to be processed, causing one of the following: sending of transactional information to the coapplications in one layer of the network 10; the receiving of information for use in programs or for presentation in application-dependent fields on monitor screen 414; or the requesting of a new object to be processed by RS 400. Such objects may be part of the same application or a completely new application. The RS 400 supports a protocol by which the user and the partitioned applications communicate. All partitioned applications are designed knowing that this protocol will be supported in RS 400. Hence, replication of the protocol in each partitioned application is avoided, thereby minimizing the size of the partitioned application.

Col. 9, lines 35-47: Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters.

Col. 81 lines 15-22: "This feature enables RS 400 to conditionally deliver information to the user base upon predetermined parameters, such as his personal demographics or locale. For example, the parameters specified may be the transaction codes required to retrieve the user's age, sex, and personal interest codes from records contained in user profiles stored at the switch/file server layer 200."

Claim 2 - my analysis of the Filepp '632 Patent

The Filepp '632 Patent does not perform this claim element: "wherein the inferred context includes information related to at least one phase of the sales process."

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Among other things, the Prodigy Online Information System was not itself a sales and marketing system (in spite of its ability to host partitioned applications that could involve shopping, banking, stocks). In the case of Prodigy's advertisement subsystem, while it is clear that, in the Filepp '632 Patent, information relevant to an advertisement (e.g., pages browsed and user demographics) is passed among subsystems of the Prodigy system, there is no evidence from the Cook Report or the Filepp '632 Patent that context ["information already existing within the system that becomes relevant upon the occurrence of an event"] was *inferred* using a "logical process by which a factual conclusion is derived from known facts by the application of logical rules". The Filepp '632 Patent does not describe an event manager that "detect[s] . . . *infer[s]* . . . and automatically initiat[es] an operation" as required by Claim 1 or that any inference step that is part of an event takes place.

VI.A. Claim 3 in view of the Filepp '632 Patent

Claim 3 - language

- "[A system as recited in Claim 1,] wherein the inferred context includes information related to whether a previous event has occurred in the sales process.

Claim 3 - construction

- "context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

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My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 3 - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 1 chart incorporated by reference.]

Col. 73 lines 52-64: "Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 [reception system] to interpret events and trigger preprocessors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed."

Col. 5, line 55 – Col. 6 line 9:"Objects carry application programs and information for display at monitor screen 414 of RS 400. Application program objects, called preprocessor and post-processors, set up the environment for the user's interaction with network 10 and respond to events created when the user inputs information at keyboard 424 of RS 400. Such events typically trigger a program object to be processed, causing one of the following: sending of transactional information to the coapplications in one layer of the network 10; the receiving of information for use in programs or for presentation in application-dependent fields on monitor screen 414; or the requesting of a new object to be processed by RS 400. Such objects may be part of the same application or a completely new application. The RS 400 supports a protocol by which the user and the partitioned applications communicate. All partitioned applications are designed knowing that this protocol will be supported in RS 400. Hence, replication of the protocol in each partitioned application is avoided, thereby minimizing the size of the partitioned application.

Col. 9, lines 35-47: Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection co-application in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters.

Col. 81 lines 15-22: "This feature enables RS 400 to conditionally deliver information to the user base upon predetermined parameters, such as his personal demographics or locale. For example, the parameters specified may be the transaction codes required to

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retrieve the user's age, sex, and personal interest codes from records contained in user profiles stored at the switch/file server layer 200."

Claim 3 - my analysis of the Filepp '632 Patent

The Filepp '632 Patent does not perform this claim element: "wherein the inferred context includes information related to whether a previous event has occurred in the sales process."

Among other things, while it is arguable that, in the Filepp '632 Patent, a previous event can result in a later event, there is no evidence from the Cook Report or the Filepp '632 Patent that context ["information already existing within the system that becomes relevant upon the occurrence of an event"] was *inferred* using a "logical process by which a factual conclusion is derived from known facts by the application of logical rules". The Filepp '632 Patent does not describe an event manager that "detect[s] . . . *infer[s]* . . . and automatically initiat[es] an operation" as required by Claim 1 or that any inference step that is part of an event takes place.

VI.A. Claim 5 in view of the Filepp '632 Patent

Claim 5, element a - language

* "[A system as recited in Claim 1, wherein the plurality of subsystems comprises:] a time with customer subsystem configured to convert a lead to a buying customer, so as to close a sale; and"

Claim 5, element a - construction

* "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

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Claim 5, element a - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 1 chart incorporated by reference.]

Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

Claim 5, element a - my analysis of the Filepp '632 Patent

See claim elements missing from Claim 1.

The Filepp '632 Patent performs some of the function of the '525 Patent's "time with customer" subsystem:

"the time with customer component receives necessary information, for example, pricing and financing data from the data component, and stores information obtained during the time spent with the customer, such as the customer's particular needs and desires in the databases of the data component 116." ['525 Patent, 5:24-30]

For instance, the Filepp '632 Patent presumably would enable a consumer to select an advertisement to learn more and possibly purchase a product.

Claim 5, element b - language

- "a lead generation subsystem configured to convert a name to a potential customer."

Claim 5, element b - construction

- "subsystem" - "a system that is part of a larger system"

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My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 5, element b - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

> Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

Claim 5, element b - my analysis of the Filepp '632 Patent

See claim elements missing from Claim 1.

The Filepp '632 Patent does not perform the claim element: "a lead generation subsystem configured to convert a name to a potential customer."

Among other things, the Filepp '632 Patent does not contain a lead generation subsystem.

The '525 Patent describes a lead generation subsystem as follows

> "The lead generation component 102 is provided to assist sales personnel to identify leads, to generate qualified leads and to begin the sales process. The lead generation component may include, for example, automated systems designed to assist the sales personnel in carrying out such tasks as telemarketing, kiosk presentations, trade show demonstrations, database marketing, electronic advertising, etc. ['525 Patent, 4:22-27]

Among other things, the Filepp '632 Patent does not "convert a name to a potential customer" as required by this claim element, since the customer is already known.

VI.A. Claim 7 in view of the Filepp '632 Patent

Claim 7, element a - language

- "[A system as recited in Claim 1, wherein the plurality of subsystems comprises:] a time with customer subsystem configured to convert a lead to a buying customer, so as to close a sale; and"

Claim 7, element a - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary

and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 7, element a - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

> [Claim 1 chart incorporated by reference.]

> Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

> Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

Claim 7, element a - my analysis of the Filepp '632 Patent

> See claim elements missing from Claim 1.

> See discussion for Claim 5a which is incorporated herein by reference.

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Claim 7, element b - language

- "a customer retention subsystem configured to convert an existing customer into a lead, so as to generate repeat sales."

Claim 7, element b - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary

and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 7, element b - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in repeat sales which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

> Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

Claim 7, element b - my analysis of the Filepp '632 Patent

See claim elements missing from Claim 1.

The Filepp '632 Patent does not perform the claim element: "a lead generation

subsystem configured to convert a name to a potential customer."

Among other things, the Filepp '632 Patent does not contain a lead generation subsystem.

The '525 Patent describes a lead generation subsystem as follows

> "The lead generation component 102 is provided to assist sales personnel to identify leads, to generate qualified leads and to begin the sales process. The lead generation component may include, for example, automated systems designed to assist the sales

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personnel in carrying out such tasks as telemarketing, kiosk presentations, trade show demonstrations, database marketing, electronic advertising, etc. ['525 Patent, 4:22-27]

Among other things, the Filepp '632 Patent does not "convert an existing customer into a lead, so as to generate repeat sales."

VI.A. Claim 20 in view of the Filepp '632 Patent

Claim 20, preamble - language

- "A method of facilitating a sales process using a computer arrangement having a plurality of subsystems configured to facilitate one or more actions performed during at least one phase of the sales process, the method comprising the steps of:"

Claim 20, preamble - construction

- "Subsystem" - "a system that is part of a larger system";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 20, preamble - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this preamble is as follows:

> The preamble is not a limitation, nonetheless abstract: "An interactive computer system that enables a user to... perform desired transactions such as banking and shopping..."
>
> Col. 6 Lines 56-61: "Services available to the user include...the purchase of items such as retail merchandise and groceries... and buy/sell orders for stocks and bonds."
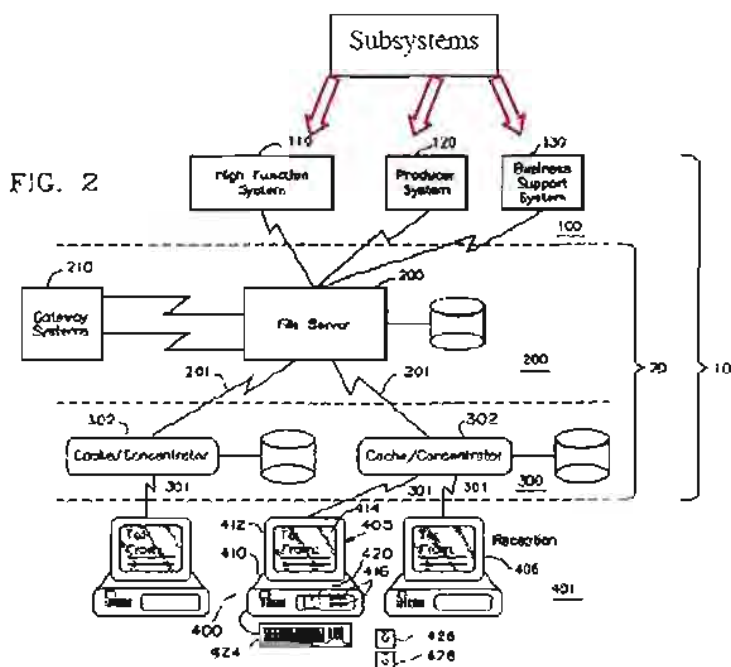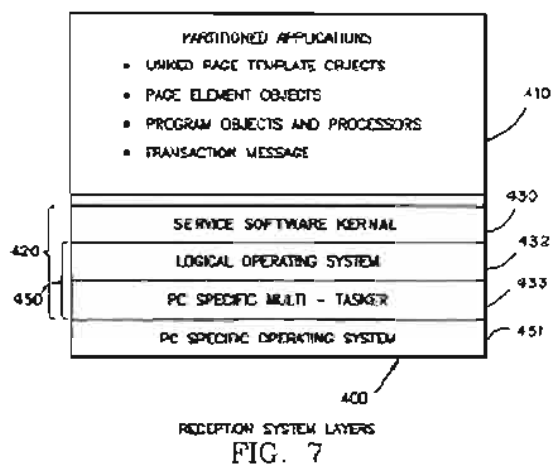>
> Col. 3 lines 27-34: "In preferred form the reception system further comprises...a plurality of partitioned applications; and object processing means...for selecting and retrieving objects...and interpreting and executing the partitioned applications"
>
> Col. 5 lines 26-27: "Each application partition is an independent, self-contained unit and can operate correctly by itself."
>
> Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the

network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

RECEPTION SYSTEM LAYERS
FIG. 7

FIG. 2

Claim 20, preamble - my analysis of the Filepp '632 Patent

My analysis of the preamble for this method Claim is the same as my analysis for the preamble and Claim 1, element a combined.

Claim 20, element a - language

- "automatically detecting one or more changes in state characteristic of an event occurring in the sales process;"

Claim 20, element a - construction

- "Changes in state characteristic of an event" - "a change in a unique configuration of information within the system that is indicative of the occurrence of an event within the system.

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 20, element a - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

Col. 101 lines 53-54: "receiving requests for partitioned applications at the reception system."

FIG. 6
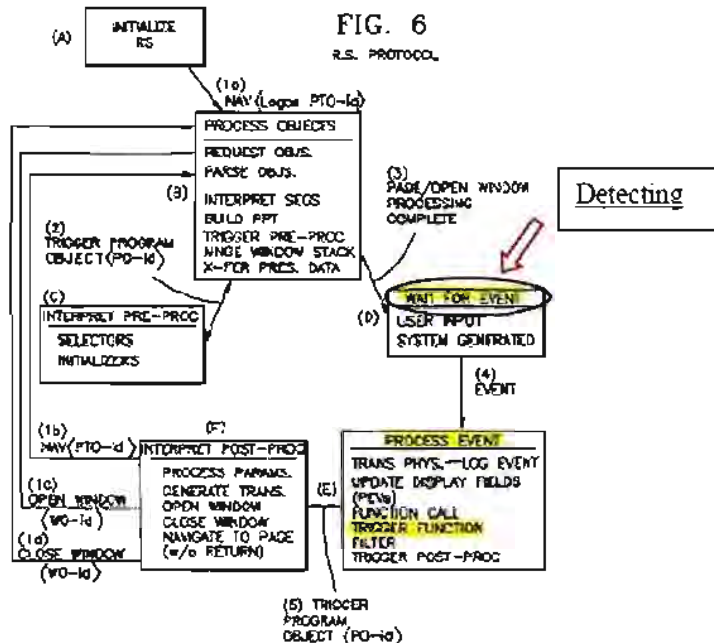
Claim 20, element a - my analysis of the Filepp '632 Patent

The material differences between this element and the "detecting" of Claim 1, element b are that Claim 20 has the additional limitation of "automatically" detecting, and it involves detecting state changes in events occurring in the sales process, as opposed to Claim 1 which involves detecting state changes of events occurring in the system.

My analysis of this element is the same as my analysis for Claim 1, element b – except that the Filepp '632 Patent is not aimed at supporting sales force automation.

Claim 20, element b - language

- "Inferring occurrence of the event and a context in which the event occurred based at least in part on the detected changes in state; and"

Claim 20, element b - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event"

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

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- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

- "Inferring occurrence of an event" - "logical process by which the fact that an event has occurred is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 20, element b - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:
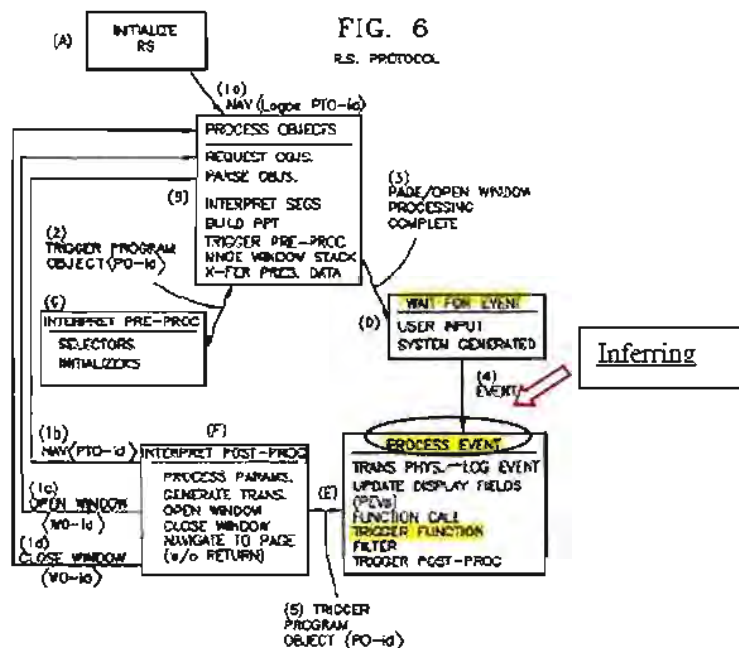
Col. 14 lines 52-55: "Program events will be specified in logical terms and will be mapped by the reception system to specific physical triggers..."

Col. 81 lines 43-51: "Certain inputs, such as RETURN or mouse clicks in particular fields, are mapped to logical events by keyboard manager 434, which are called completion (or commit) events. Completion events signify the completion of some selection or specification process associated with the partitioned application and trigger a partition level and/or page level postprocessor to process the 'action' parameters associated with the user's selection and commit event."

Col. 39 lines 60-66: "Reception system is aware of the occurrence of physical events during the...interactive sessions. When a physical event such as the depression of a ...key corresponds to a logical event such as the completion of data entry in a field..."

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Col. 73 lines 52-64: "Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 [reception system] to interpret events and trigger preprocessors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed."

Col. 9, lines 35-47: "Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection co-application in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters."

Col. 81 lines 15-22: "This feature enables RS 400 to conditionally deliver information to the user base upon predetermined parameters, such as his personal demographics or locale. For example, the parameters specified may be the transaction codes required to retrieve the user's age, sex, and personal interest codes from records contained in user profiles stored at the switch/file server layer 200."

Claim 20, element b - my analysis of the Filepp '632 Patent

My analysis of this element for this method Claim is the same as my analysis for system

Claim 1, element c.

Claim 20, element c – language

- "automatically initiating an operation in one or more particular subsystems of the computer to facilitate a new action based on the inferred context."
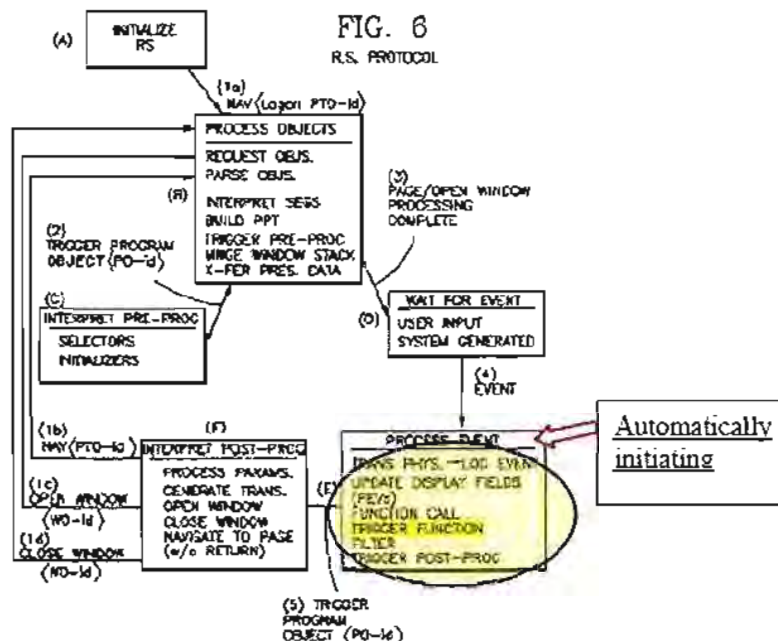
Claim 20, element c - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

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- "Subsystem" - "a system that is part of a larger system";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 20, element c - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

Col. 74 lines 59-62: "If the functions are part of [reception system] they can be altered or extended... [to] permit the execution of program objects to be triggered..."

Col. 99 lines 12-16: "The reception system comprising: "object processing means responsive to the input means for selectively retrieving and interpreting objects to extract data and program instructions for composing and generating the partitioned applications...""
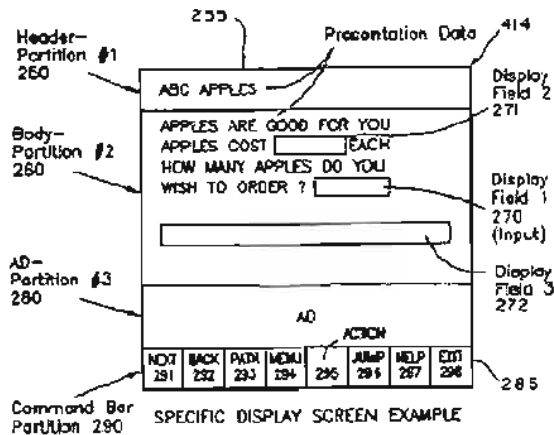
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FIG. 3b

Col. 95 line 67- Col. 96 line 3: "The page illustrated in FIG. 3(b) corresponds to a partitioned application that permit's [sic] a personal computer user to purchase apples. It shows how the monitor screen 414 of personal computer 405 might appear to the user."

Col. 9, lines 35-47: "Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters."

Claim 20, element c - my analysis of the Filepp '632 Patent

My analysis of this element is the same as my analysis for Claim 1, element d.

VI.A. Claim 24 in view of the Filepp '632 Patent

Claim 24 - language

- "A method as recited in Claim 20, wherein the inferred context includes information related to at least one phase of the sales process."

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Claim 24 - construction

- "context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 24 - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 20 chart is incorporated by reference.]

Col. 73 lines 52-64: "Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 [reception system] to interpret events and trigger preprocessors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed."

Col. 5, line 55 – Col. 6 line 9: "Objects carry application programs and information for display at monitor screen 414 of RS 400. Application program objects, called preprocessor and post-processors, set up the environment for the user's interaction with network 10 and respond to events created when the user inputs information at keyboard 424 of RS 400. Such events typically trigger a program object to be processed, causing one of the following: sending of transactional information to the coapplications in one layer of the network 10; the receiving of information for use in programs or for presentation in application-dependent fields on monitor screen 414; or the requesting of a new object to be processed by RS 400. Such objects may be part of the same application or a completely new application. The RS 400 supports a protocol by which the user and the partitioned applications communicate. All partitioned applications are designed knowing that this protocol will be supported in RS 400. Hence, replication of the protocol in each partitioned application is avoided, thereby minimizing the size of the partitioned application.

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Col. 9, lines 35-47: Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters.

Col. 81 lines 15-22: "This feature enables RS 400 to conditionally deliver information to the user base upon predetermined parameters, such as his personal demographics or locale. For example, the parameters specified may be the transaction codes required to retrieve the user's age, sex, and personal interest codes from records contained in user profiles stored at the switch/file server layer 200."

Claim 24 - my analysis of the Filepp '632 Patent

See claim elements missing from Claim 20.

See discussion for Claim 2 which is incorporated herein by reference.

VI.A. Claim 34 in view of the Filepp '632 Patent

Claim 34, element a - language

- "[A method as recited in Claim 20, further comprising the steps of:] inferring occurrence of an event while converting a lead to a buying customer; and"

Claim 34, element a - construction

- "inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "inferring occurrence of an event" - "logical process by which the fact that an event has occurred is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

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Claim 34, element a - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 20 chart incorporated by reference.]

Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

Claim 34, element a - my analysis of the Filepp '632 Patent

See claim elements missing from Claim 20.

See discussion for Claims 2 and 5b which are incorporated herein by reference. In Filepp '632, there is no event described that converts a lead to a buying customer which involves "inferring occurrence of an event," that is, following a ["logical process by which the fact that an event has occurred is derived by application of logical rules"].

Furthermore, this claim element requires a lead, but, in the Filepp '632 Patent, a consumer who chooses to make a purchase cannot properly be called a lead.

Claim 34, element b - language

- "using the particular subsystem to convert an existing customer into a lead, so as to generate repeat sales."

Claim 34, element b - construction

- "subsystem" - "a system that is part of a larger system"

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My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 34, element b - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

> Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

Claim 34, element b - my analysis of the Filepp '632 Patent

See claim elements missing from Claim 20.

The Filepp '632 Patent does not perform this claim element: "using the particular subsystem to convert an existing customer into a lead, so as to generate repeat sales."

Among other things, there is no description of using this system to create leads for a later potential sale.

Among other things, the Filepp '632 Patent does not "convert an existing customer into a lead, so as to generate repeat sales."

VI.A. Claim 40 in view of the Filepp '632 Patent

Claim 40, preamble - language

- "A computer implemented sales system used to facilitate a sales process, the system comprising:"

Claim 40, preamble - construction

The Court has not construed this preamble. My analysis construes the terms of this preamble in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 40, preamble - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this preamble is as follows:

> The preamble is not a limitation, nonetheless abstract: "An interactive computer system that enables a user to... perform desired transactions such as banking and shopping..."
>
> Col. 6 Lines 56-61: "Services available to the user include...the purchase of items such as retail merchandise and groceries... and buy/sell orders for stocks and bonds."

Claim 40, preamble - my analysis of the Filepp '632 Patent

My analysis of this preamble is the same as my analysis for Claim 1, preamble.

Claim 40, element a - language

- "a plurality of subsystems configured to electronically facilitate actions performed during the sales process; and"
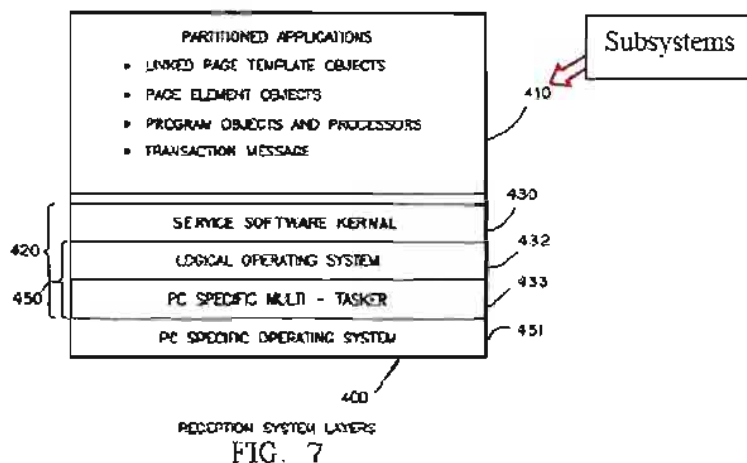
Claim 40, element a - construction

- "Subsystem" - "a system that is part of a larger system";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 40, element a - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

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PARTITIONED APPLICATIONS
- LINKED PAGE TEMPLATE OBJECTS
- PAGE ELEMENT OBJECTS
- PROGRAM OBJECTS AND PROCESSORS
- TRANSACTION MESSAGE

SERVICE SOFTWARE KERNAL
LOGICAL OPERATING SYSTEM
PC SPECIFIC MULTI - TASKER
PC SPECIFIC OPERATING SYSTEM

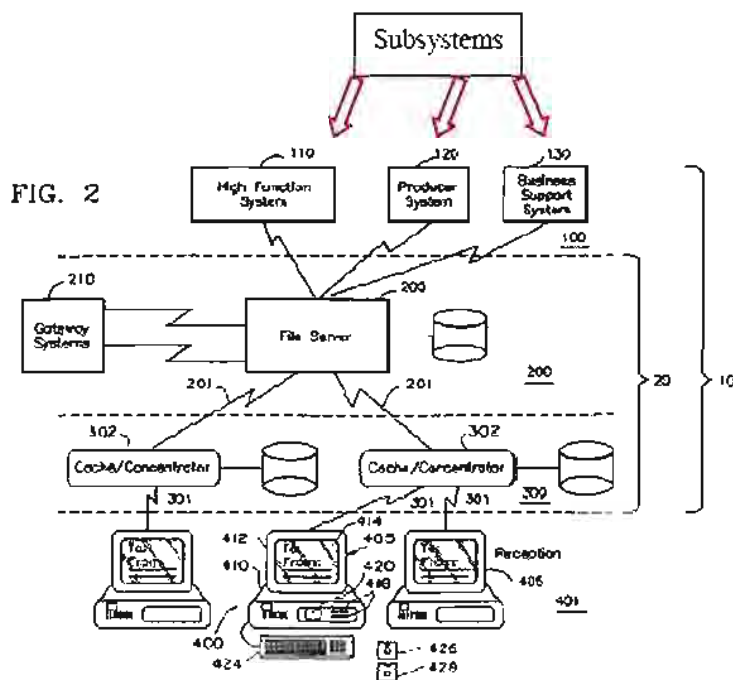RECEPTION SYSTEM LAYERS

FIG. 7

Col. 3 lines 27-34: "In preferred form the reception system further comprises...a plurality of partitioned applications; and object processing means...for selecting and retrieving objects...and interpreting and executing the partitioned applications"

Col. 5 lines 26-27: "Each application partition is an independent, self-contained unit and can operate correctly by itself."

Col. 6 lines 45-68: "Services available to the user include display of information such as movie reviews, the latest news, airlines reservations, the purchase of items such as retail merchandise and groceries, and quotes and buy/sell orders for stocks and bonds. Network 10 provides an environment in which a user, via RS 400 establishes a session with the network and accesses a large number of services. These services are specifically constructed applications which as noted are partitioned so they may be distributed without undo transmission time, and may be processed and selectively stored on a user's RS 400 unit."

Col. 9, lines 30-34: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400."

FIG. 2

Claim 40, element a - my analysis of the Filepp '632 Patent

My analysis of this element is the same as my analysis for Claim 1, element a.

Claim 40, element b - language

- "an event manager coupled to the subsystems and configured to detect one or more changes in state characteristic of an event occurring in the system,"
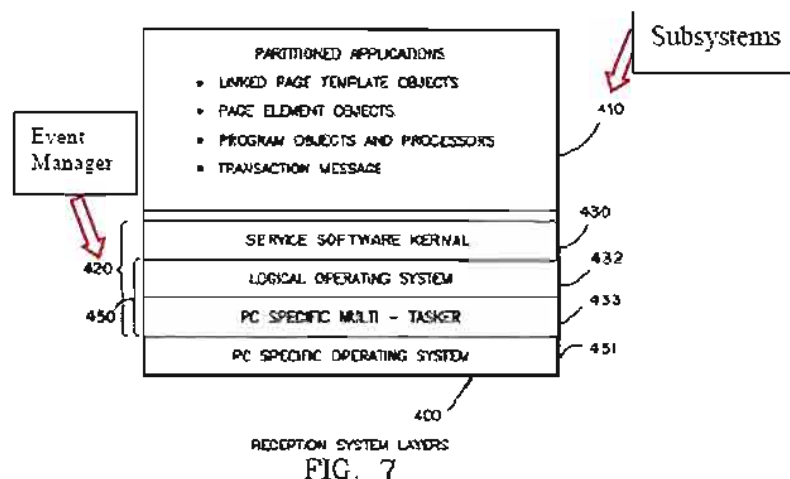
Claim 40, element b - construction

- "Event manager" - "hardware and/or software";

- "Subsystem" - "a system that is part of a larger system";

- "Changes in state characteristic of an event" - "a change in a unique configuration of information within the system that is indicative of the occurrence of an event within the system.

My analysis construes the other terms of this element in accordance with their ordinary and

customary meaning to one of ordinary skill in the art during the time frame of October 1995.

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Claim 40, element b - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

FIG. 7

Col. 82 lines 30-59: "Again with reference to FIG. 7, native software 420 ... is composed of two components: the service software 430 and the operating environment 450. ... Service software 430 provides functions specific to providing interaction between the user and interactive network 10 ...".

Service software 430 is comprised of modules, which are device independent software components that together obtain, interpret and store partitioned applications existing as a collection of objects. The functions performed by, and the relationship between, the service software 430 module is shown in FIG. 8 and discussed further below."
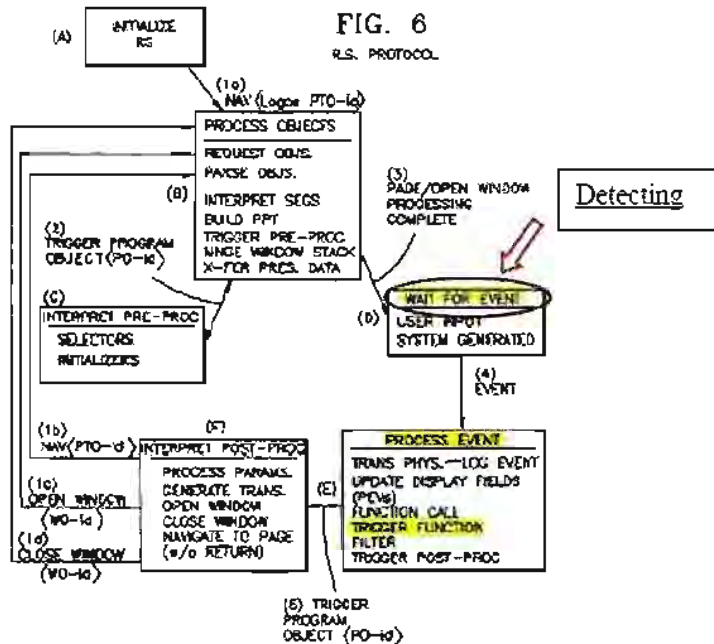
Col. 83 lines 12-21: "RS native software provides a virtual machine interface for partitioned applications, such that all objects comprising partitioned applications "see" the same machine. RS native software provides support for the following functions: (1) keyboard and mouse input; (2) text and graphics display; (3) application interpretation; (4) application database management; (5) local application storage; (6) network and link level communications; (7) user activity data collection; and (8) advertisement management."

Col. 8 lines 9-14: "The RS 400 is the point of application session control because it has the ability to select and randomly access objects representing all or part of partitioned applications and their data. RS 400 processes objects according to information contained therein and events created by the user on personal computer 405."

Col. 3 lines 27-34: "In preferred form the reception system further comprises... objects comprising a plurality of partitioned applications; and object processing means...for selecting and retrieving objects...and interpreting and executing the partitioned applications"

Col. 6 lines 3-9: "The RS 400 supports a protocol by which the user and the partitioned applications communicate. All partitioned applications are designed knowing that this protocol will be supported in RS 400. Hence, replication of the protocol in each partitioned application is avoided, thereby minimizing the size of the partitioned application."

Col. 101 lines 53-54: "receiving requests for partitioned applications at the reception system."

Claim 40, element b - my analysis of the Filepp '632 Patent

My analysis of this element is the same as my analysis for Claim 1, element b.

Claim 40, element c - language

- "Infer occurrence of the event and a context in which the event occurred based at least in part on the detected changes in state,"

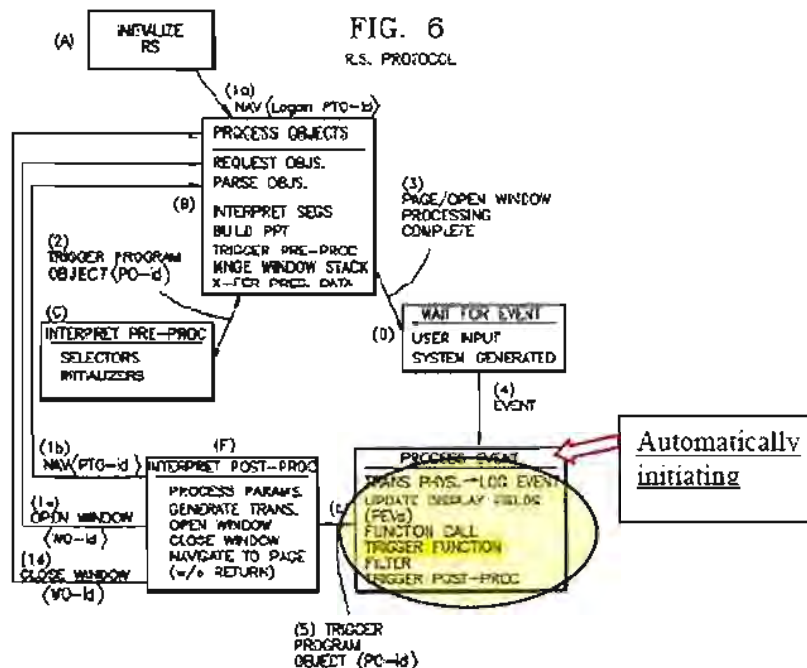**Claim 40, element c - construction**

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

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- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

- "Inferring occurrence of an event" - "logical process by which the fact that an event has occurred is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 40, element c - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

FIG. 6

Col. 74 lines 59-62: "If the functions are part of [reception system] they can be altered or extended... [to] permit the execution of program objects to be triggered..."

Col. 8 lines 24-27: "selecting another partitioned application to be processed upon a user generated completion event for the current partitioned application."

Col. 99 lines 12-16: "The reception system comprising: "object processing means responsive to the input means for selectively retrieving and interpreting objects to extract data and program instructions for composing and generating the partitioned applications...""
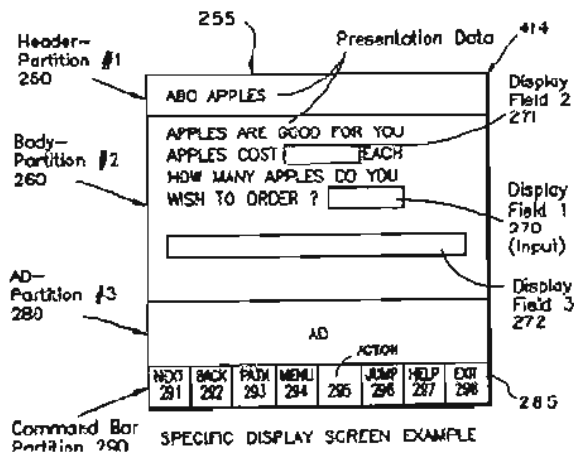
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FIG. 3b

Col. 95 line 67- Col. 96 line 3: "The page illustrated in FIG. 3(b) corresponds to a partitioned application that permit's [sic] a personal computer user to purchase apples. It shows how the monitor screen 414 of personal computer 405 might appear to the user."

Col. 9, lines 35-47: "Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters."

Claim 40, element c - my analysis of the Filepp '632 Patent

My analysis of this element is the same as my analysis for Claim 1, element c.

Claim 40, element d - language

- "Link the inferred event with an action to be performed during the sales process based on prior sales experience using the sales system, and"

Claim 40, element d - construction

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 40, element d - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 9 lines 30-38: "Advertisements 280 may be presented to the user on an individual basis from queues of advertisements that are constructed off-line by business system 130, and sent to file server 205 where they are accessible to each RS 400. Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications."

> Col. 73 lines 52-64: "Through this interaction, the user is able to input data into fields provided as part of the display, or may individually select choices causing a standard or personalized page to be built (as explained below) for display on the monitor of personal computer 405. Such inputs will cause RS 400 [reception system] to interpret events and trigger preprocessors or post-processors, retrieve specified objects, communicate with system components, control user options, cause the display of advertisements on a page, open or close window partitions to provide additional navigation possibilities, and collect and report data about events, including certain types of objects processed."

Claim 40, element d - my analysis of the Filepp '632 Patent

The Filepp '632 Patent does not perform this Claim element: "Link the inferred event with an action to be performed during the sales process based on prior sales experience using the sales system,"

See Claim 1, preamble which argues that the Filepp '632 system was not designed with the objective of being a sales system to support a sales process for a sales force.

Dr. Cook does not analyze how the references he provides can "link the inferred event with an action" as required by this Claim element.

Claim 40, element e - language

- "Automatically initiate an operation using one or more of the plurality of subsystems to facilitate the action to be performed based on the inferred context."
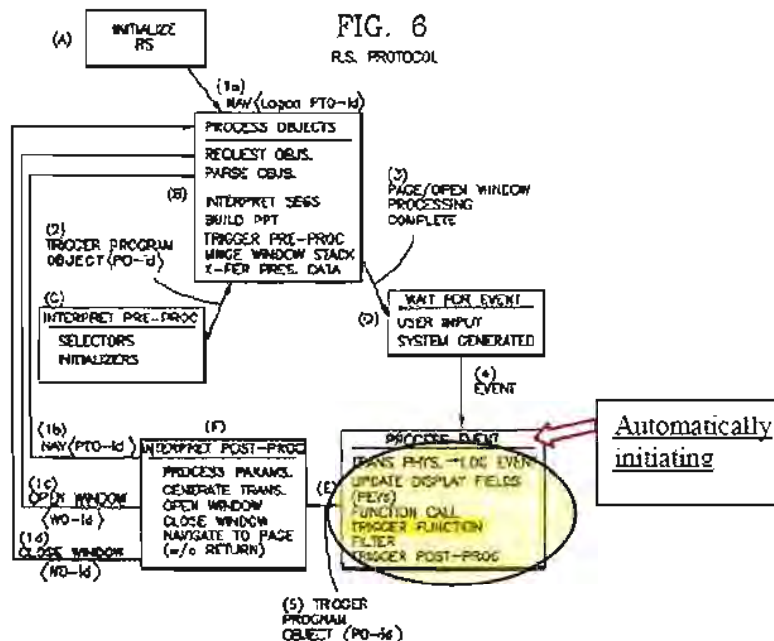
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Claim 40, element e - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

- "Subsystem" - "a system that is part of a larger system";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 40, element e - analysis by Dr. Cook of the Filepp '632 Patent

Dr. Cook's analysis of this element is as follows:

FIG. 6
R.S. PROTOCOL

Col. 74 lines 59-62: "If the functions are part of [reception system] they can be altered or extended... [to] permit the execution of program objects to be triggered..."

Col. 8 lines 24-27: "selecting another partitioned application to be processed upon a user generated completion event for the current partitioned application."

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Col. 99 lines 12-16: The reception system comprising: "object processing means responsive to the input means for selectively retrieving and interpreting objects to extract data and program instructions for composing and generating the partitioned applications..."
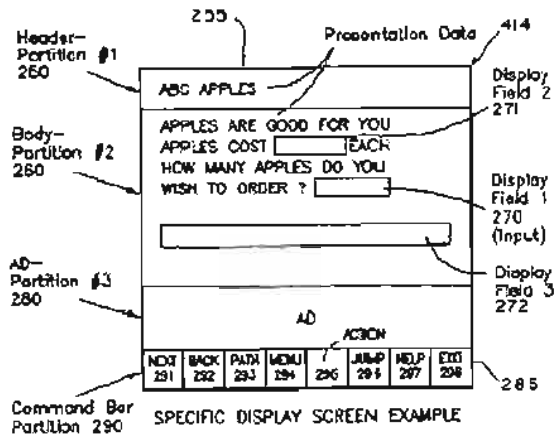

FIG. 3b

Col. 95 line 67- Col. 96 line 3: "The page illustrated in FIG. 3(b) corresponds to a partitioned application that permit's [sic] a personal computer user to purchase apples. It shows how the monitor screen 414 of personal computer 405 might appear to the user."

Col. 9, lines 35-47: "Individual queues of advertisements are constructed based upon data collected on the partitioned applications that were accessed by a user, and upon events the user generated in response to applications. The data are collected and reported by RS 400 to a data collection coapplication in file server 205 for later transmission to business system 130. In addition to application access and use characteristics, a variety of other parameters, such as user demographics or postal ZIP code, may be used as targeting criteria. From such data, queues of advertisements are constructed and targeted to either individual users or to sets of users who fall into certain groups according such parameters."

Claim 40, element e - my analysis of the Filepp '632 Patent

My analysis of this element is the same as my analysis for Claim 1, element d.

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VI.B   U.S. PATENT NO. 5,117,354 TO LONG (THE "LONG '354 PATENT")

VI.B General Overview of the Long '354 Patent

Reference for the Long '354 Patent

- G. Long et al., "Automated System for Pricing and Ordering Custom Manufacturing Parts," US Patent 5,117,354, Filed: June 5, 1990, Issued: May 26,1992

Claims at Issue

The Cook Report states that "Long et al U.S. Pat. No. 5,117,354 anticipates asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37 and 40." (Cook Report, p51)

Dr. Cook's Summary of the Long '354 Patent (quoted from his Expert Report)

"138. This patent teaches systems for the pricing and ordering of goods, so that sales representatives can obtain pricing information, and place orders for the goods. In Long, a variety of sales representatives in the field are each equipped with a personal computer, acting as respective subsystems, each having processing capabilities, local memory and long term storage. The subsystems may be installed at the office locations of the sales representatives or may be portable units which are carried in the field. The subsystems are coupled to an event manager that is a processor of a host computer and includes software that looks for mail placed in the host mailbox from any of the subsystems. The host computer, during its polling of requests and other items placed in its mailbox, detects changes in state (e.g., sensing that an inquiry or order has been placed by a sales representative).

"139. The manufacturer host then decodes each item on the order, inquiry or quote request, and prices each item. The event manager logically derives event occurrence (i.e., that an order has been placed, relative to a general inquiry, or verification that an accurate and fillable order has been placed). Contexts logically derived as relevant upon the occurrence of the event are inventory data, accounting, credit, and/or and pricing information. The host system can reassemble the file as a price quoted for transmittal. The automatic operation in a subsystem is a provision of a price quote facilitating the action of forwarding the quote to the customer."

My Summary of the Long '354 Patent

The Long '354 Patent entitled "Automated System for Pricing and Ordering Custom Manufactured Parts" is summarized in the patent abstract:

"A system is disclosed for the automated pricing and ordering of custom manufactured parts, as for the air handling equipment industry. The system includes software for personal computers of the sales representatives which assists the sales representative in creating product identification codes which specify the specifications of the product to be made. A completed order of such items is deposited in an electronic mail system addressed to the manufacturer. A host computer at the manufacturer periodically polls the electronic mail system for communications and then either prices the quote or processes the order." [Long patent, Abstract]

The Long Patent describes how structured messages of two kinds (requests for quotes and orders) can be transmitted by email messages from a sales person in the field to a central application server that processes the request.   An application on the sales person's machine can translate complex product specifications into a product identification code.   Response emails, composed by the system, can contain information on quantity discounts.

Dr. Cook's Analysis of the Long '354 Patent from his Expert Report pp. 31-32 (quoted)

137. I considered and analyzed U.S. Patent No. 5,117,354 ("the '354 Patent"). The '354 Patent was "known or used by others" in the United States prior to the October 30, 1994 critical date for the '525 Patent.

138. This patent teaches systems for the pricing and ordering of goods, so that sales representatives can obtain pricing information, and place orders for the goods. In Long, a variety of sales representatives in the field are each equipped with a personal computer, acting as respective subsystems, each having processing capabilities, local memory and long term storage. The subsystems may be installed at the office locations of the sales representatives or may be portable units which are carried in the field. The subsystems are coupled to an event manager that is a processor of a host computer and includes software that looks for mail placed in the host mailbox from any of the subsystems. The host computer, during its polling of requests and other items placed in its mailbox, detects changes in state (e.g., sensing that an inquiry or order has been placed by a sales representative).

139. The manufacturer host then decodes each item on the order, inquiry or quote request, and prices each item. The event manager logically derives event occurrence (i.e., that an order has been placed, relative to a general inquiry, or verification that an accurate and fillable order has been placed). Contexts logically derived as relevant upon the occurrence of the event are inventory data, accounting, credit, and/or and pricing information. The host system can reassemble the file as a price quoted for transmittal. The automatic operation in a subsystem is a provision of a price quote facilitating the action of forwarding the quote to the customer.

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CONFIDENTIAL

140. The foregoing description is by way of example only and is intended to illustrate, in general terms, the functionality of the described system to provide context. As I discuss in the Claim chart, it is my opinion that under the Court's constructions, the asserted Claims 1-3, 5-8, 10, 12, 20, 24, 34, 35, 37 and 40 of the '525 Patent are anticipated by the '354 Patent under 35 U.S.C. § 102 (a) and (b). It is also my opinion that the remaining asserted Claims are obvious in view of the '354 Patent, either alone or in combination with other references listed herein.

141. A detailed analysis of how this reference anticipates and/or renders obvious the asserted Claims of the '525 Patent is provided in Appendix C, page 51-80.

Relevance of the Long '354 Patent to the '525 Patent

Unlike the '525 Patent, the objective of the Long '354 Patent is not to solve the general problem of automating a sales force except the particular steps of submitting quotes and orders, which were well known in EDI systems of the time. The Long '354 Patent does not mention *events, event managers, event management, rules,* or *inference* and does not described contextual events or inference mechanisms.

Dr. Cook identified the host application as an event server because it polls a mailbox waiting for new email requests to arrive (using known prior art – see Section I.G):

"In Long, a variety of sales representatives in the field are each equipped with a personal computer, acting as respective subsystems, each having processing capabilities, local memory and long term storage. The subsystems are coupled to an event manager that is a processor of a host computer and includes software that looks for mail placed in the host mailbox from any of the subsystems. The host computer, during its polling of requests and other items placed in its mailbox, detects changes in state (e.g., sensing that an inquiry or order has been placed by a sales representative)." [Dr. Cook, para. 138]

The only kinds of "events" the system recognizes are *request for quotes* and *orders* and there is no ability to define new events without reprogramming. As mentioned in Section I.G, email existed since the 1970s including standards still used today like Simple Mail Transfer Protocol (SMTP) from the early 1980s. Email clients on the user machine conventionally poll the server periodically to check for recently arrive mail messages. In addition, applications can be built that use email for communication – for instance, structured automated messaging via LISTSERV

programs have been used to track mailing group memberships dating from the mid 1980s. Additionally, Electronic Data Interchange (EDI) standards and systems were deployed since the late 1980s to enable industrial partners to request quotes and place orders for goods.

Dr. Cook also states in paragraph 139 that "contexts logically derived as relevant upon the occurrence of the event are inventory data, accounting, credit, and/or and pricing information" but he does not describe how logic, rules, or inference are involved.

Dr. Cook states also in paragraph 139 that "The host system can reassemble the file as a price quoted for transmittal. The automatic operation in a subsystem is a provision of a price quote facilitating the action of forwarding the quote to the customer." There is not evidence that, for the system to reply to a *Request for Quote* message with a *Quote* message, that the Long '384 Patent uses rules or inference.

I conclude that Long's invention did not provide a sales force automation system that used mechanisms like rules or events to support the sales process.

In addition, the '354 Patent was before the examiner during the prosecution of the '525 Patent and was considered by the examiner when the examiner made the determination to allow the issuance of the '525 Patent. In fact, the examiner allowed the claims of the '525 Patent to issue in light of the examiners consideration of the '354 Patent.

Further, even assuming for a moment that the '354 Patent was not considered by the examiner (which it was), the '354 Patent is similar to, and hence cumulative to, much of the prior art that was before the examiner during the prosecution of the '525 Patent. For example, the '354 Patent is cumulative to the following systems which, I understand, were developed by the assignee of the '525 Patent – Clear with Computers: (i) the ISIS System, which was of record during the prosecution of the '525 Patent; and (ii) the Truck Force Tools System. In addition,

the '354 Patent is cumulative to a number of the United States Patents that were considered by the examiner during the prosecution of the '525 Patent.

VI.B. Claim 1 in view of the Long '354 Patent

Claim 1, preamble - language

- "A computer implemented sales system used to facilitate a sales process, the system comprising:"

Claim 1, preamble - construction

The Court has not construed this preamble. My analysis construes the terms of this preamble in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, preamble - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this preamble is as follows:

> The preamble is not a limitation, nonetheless col. 1 lines 7-13:   "... present invention relates to systems for pricing and ordering goods... so that sales representatives can obtain pricing information, and place orders for the goods to be manufactured..."

Claim 1, preamble - my analysis of the Long '354 Patent

The Court has not construed this preamble: "A computer implemented sales system used to facilitate a sales process, the system comprising:"

The Long '354 Patent describes a system that supported the sales person in the field by facilitating the sales process for one narrow, hard-coded phase of the sales process (requesting quotes and placing orders) for one industry segment that involves custom manufactured parts.

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Claim 1, element a - language

- "a plurality of subsystems configured to facilitate one or more actions performed during at least one phase of the sales process; and"
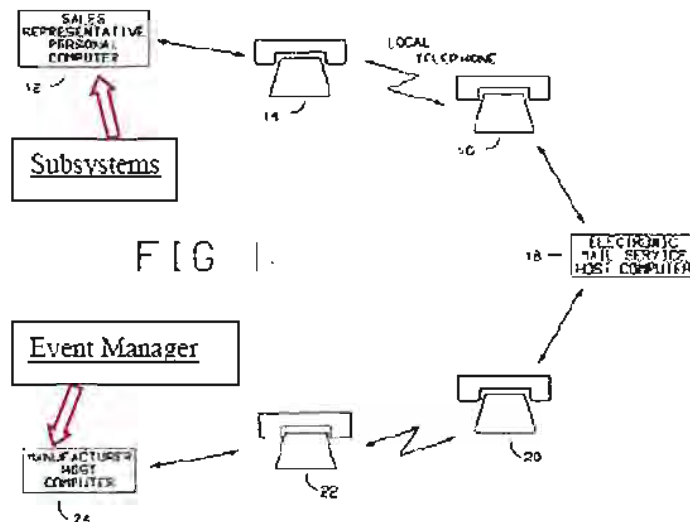
Claim 1, element a - construction

- "Subsystem" - "a system that is part of a larger system";

My analysis construes the other terms of this element in accordance with their ordinary and

customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element a - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

Col. 3 lines 27-34:

"A variety of sales representatives in the field are each equipped with a personal computer 12 having processing capabilities, local memory and long term storage such as disk drives. Those personal computers 12 may be installed at the office locations of the sales representatives or may be portable units which they may carry with them to their home or other remote locations."

Col. 2 lines 38-45: "...a central data processing facility connected to a telecommunication link to an electronic mail service host, a remote station for a sales representative... an electronic mail serving host,... the manufacturing host..."

Claim 1, element a - my analysis of the Long '354 Patent

The Long '354 Patent performs this Claim element: "a plurality of subsystems configured to facilitate one or more actions performed during at least one phase of the sales process;".

However the Long '354 Patent performs this Claim element for one narrow phase of the sales process. See Claim 1, Preamble.

Claim 1, element b - language

- "an event manager, coupled to the subsystems, the event manager detecting one or more changes in state characteristic of an event occurring within the system,"

Claim 1, element b - construction

- "Subsystem" - "a system that is part of a larger system";

- "Event manager" - "hardware and/or software";

- "Changes in state characteristic of an event" - "a change in a unique configuration of information within the system that is indicative of the occurrence of an event within the system";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element b - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

Col. 2 lines 38-45: "...a central data processing facility connected to a telecommunication link to an electronic mail service host, a remote station for a sales representative... an electronic mail serving host,... the manufacturing host..."

Co. 9 Lines 5-10: "...software embedded in step 80 [host] ...looks for mail placed in its mailbox."

Col 10 Lines 21-24: "...the manufacturer host...during its polling of requests and other items placed in its mailbox, senses that an order has been placed..."

Claim 1, element b - my analysis of the Long '354 Patent

The Long '354 Patent performs this Claim element: "an event manager, coupled to the subsystems, the event manager detecting one or more changes in state characteristic of an event occurring within the system,"

The Long '354 Patent does not mention *events, event managers*, or *event management*. It describes conventional polling by an email system. It describes two operations, requesting quotes and ordering, that the system performs with no mechanism for adding additional events short of writing additional code.

Claim 1, element c - language

- "Inferring occurrence of the event and a context in which the event occurred based at least in part on the detected changes in state, and"

Claim 1, element c - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

- "Inferring occurrence of an event" - "logical process by which the fact that an event has occurred is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element c - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

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Col. 4 lines 40-41: "The host computer 24 can then calculate out pricing information based on the items and product IDs."

Col. 8 lines 1-3: "Similarly, a manufacturer may maintain a list of standard items available on forty-eight hour stocks, which have product ID selections listed"

Col. 9 Lines 14-16: "The manufacturer host can then decode each item on the quote and price each item."

Col. 10 Lines 24-26: "The manufacturer host proceeds to verify the accuracy of the order..."

Claim 1, element c – my analysis of the Long '354 Patent

The '354 Long Patent does not perform this Claim element: "Inferring occurrence of the event and a context in which the event occurred based at least in part on the detected changes in state,".

Dr. Cook's Claim construction analysis does not analyze the citations listed to show that this Claim element is met. To whatever doubtful extent that the '354 Long Patent contains an event manager and events, that system does not provide a mechanism for inferring, contexts, or rules. The '354 Patent's so-called event manager checks for the arrival of a new email (by periodic polling) in the Requests for Quotes mailbox or the Orders mailbox and, if an email is present, it processed the email – all using well known, conventional prior art (see Section I.G).

In processing an email request for quote or order, Long's system can access inventory, accounting, credit, and/or and pricing information sources, but this is not part of "a context in which the event occurred based at least in part on the detected changes in state" because the system does not use inference.

Claim 1, element d - language

- "automatically initiating an operation in one or more particular subsystems of the computer to facilitate a new action based on the inferred context."

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Claim 1, element d - construction

- "Context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "Subsystem" - "a system that is part of a larger system";

- "Inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "Inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 1, element d - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 9 Lines 17-24: "The manufacturer host can reassemble the file as a price quoted for transmittal... Again the quote is transmitted into the electronic mail system."

> Col 10 Lines 27-29: "The manufacturer host...prints the order for scheduling and credit approval"

Claim 1, element d - my analysis of the Long '354 Patent

The Long '354 Patent does not perform this Claim element: "automatically initiating an operation in one or more particular subsystems of the computer to facilitate a new action based on the inferred context."

While the operations of responding to a Request for Quote with a Quote or responding to an Order with an operation to print the order are automatically initiated, these are not initiated based on inferred context as explained in Claim 1, element c.

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VI.B.   Claim 2 in view of the Long '354 Patent

Claim 2 - language

- "[A system as recited in Claim 1,] wherein the inferred context includes information related to at least one phase of the sales process."

Claim 2 - construction

- "context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 2 - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> [Claim 1 chart incorporated by reference]

> Col. 4 lines 40-41: "The host computer 24 can then calculate out pricing information based on the items and product IDs."

> Col. 8 lines 1-3: "Similarly, a manufacturer may maintain a list of standard items available on forty-eight hour stocks, which have product ID selections listed"

> Col. 9 Lines 14-16: "The manufacturer host can then decode each item on the quote and price each item."

> Col. 10 Lines 24-26: "The manufacturer host proceeds to verify the accuracy of the order..."

Claim 2 - my analysis of the Long '354 Patent

The Long '354 Patent does not perform this claim element: "wherein the inferred context includes information related to at least one phase of the sales process."

Among other things, while it is clear that, in the Long '354 Patent, information relevant to a sales transaction (e.g., related to product IDs and inventory) is passed among subsystems of the sales system, there is no evidence from the Cook Report or the Long '354 Patent that context ["information already existing within the system that becomes relevant upon the occurrence of an event"] was *inferred* using a "logical process by which a factual conclusion is derived from known facts by the application of logical rules". The Long '354 Patent does not describe an event manager that "detect[s] . . . *infer[s]* . . . and automatically initiat[es] an operation" as required by Claim 1 or that any inference step that is part of an event takes place.

VI.B. Claim 3 in view of the Long '354 Patent

Claim 3 - language

- "[A system as recited in Claim 1,] wherein the inferred context includes information related to whether a previous event has occurred in the sales process.

Claim 3 - construction

- "context" - "information already existing within the system that becomes relevant upon the occurrence of an event";

- "inferring" - "logical process by which a factual conclusion is derived from known facts by the application of logical rules";

- "inferring . . . a context in which the event occurred" - "logical process by which the fact that information already existing within the system that becomes relevant upon the occurrence of an event is derived by application of logical rules";

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My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 3 - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> [Claim 1 chart incorporated by reference]
>
> Col. 4 lines 40-41: "The host computer 24 can then calculate out pricing information based on the items and product IDs."
>
> Col. 8 lines 1-3: "Similarly, a manufacturer may maintain a list of standard items available on forty-eight hour stocks, which have product ID selections listed"
>
> Col. 9 Lines 14-16: "The manufacturer host can then decode each item on the quote and price each item."
>
> Col. 10 Lines 24-26: "The manufacturer host proceeds to verify the accuracy of the order..."

Claim 3 - my analysis of the Long '354 Patent

The Long '354 Patent does not perform this claim element: "wherein the inferred context includes information related to whether a previous event has occurred in the sales process."

Among other things, while it is that, in the Long '354 Patent, a previous event (e.g., a quote) can result in a later event (an order), there is no evidence from the Cook Report or the Long '354 Patent that context ["information already existing within the system that becomes relevant upon the occurrence of an event"] was *inferred* using a "logical process by which a factual conclusion is derived from known facts by the application of logical rules". The Long '354 Patent does not describe an event manager that "detect[s] . . . infer[s] . . . and automatically initiat[es] an operation" as required by Claim 1 or that any inference step that is part of an event takes place.

VI.B. Claim 5 in view of the Long '354 Patent

Claim 5, element a - language

- "[A system as recited in Claim 1, wherein the plurality of subsystems comprises:] a time with customer subsystem configured to convert a lead to a buying customer, so as to close a sale; and"

Claim 5, element a - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary

and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 5, element a - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> [Claim 1 chart incorporated by reference]

> Col. 3 lines 27-34: "A variety of sales representatives in the field are each equipped with a personal computer 12 having processing capabilities, local memory and long term storage such as disk drives. Those personal computers 12 may be installed at the office locations of the sales representatives or may be portable units which they may carry with them to their home or other remote locations."

> Col. 10 lines 37-45: "Another option available within the system available to the sales representative on his personal computer 12 is to print what is called a submittal report. ... A submittal report is a form for submission to the customer in the customer's own desired format and style that is, in essence, a bid on a particular job or project."

Claim 5, element a - my analysis of the Long '354 Patent

> See claim elements missing from Claim 1.

> The Long '354 Patent performs some of the function of the '525 Patent's "time with

customer" subsystem:

> "the time with customer component receives necessary information, for example, pricing and financing data from the data component, and stores information obtained during the time spent with the customer, such as the customer's particular needs and desires in the databases of the data component 116." ['525 Patent, 5:24-30]

For instance, the Long '354 Patent enables a sales representative to receive quotes and order parts.

However, this claim element requires a lead, but, in the Long '354 Patent, there is no information on how sales leads are determined.

Claim 5, element b - language

- "a lead generation subsystem configured to convert a name to a potential customer."

Claim 5, element b - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 5, element b - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 3 lines 27-34: "A variety of sales representatives in the field are each equipped with a personal computer 12 having processing capabilities, local memory and long term storage such as disk drives. Those personal computers 12 may be installed at the office locations of the sales representatives or may be portable units which they may carry with them to their home or other remote locations."
>
> Col. 10 lines 37-45: "Another option available within the system available to the sales representative on his personal computer 12 is to print what is called a submittal report. ... A submittal report is a form for submission to the customer in the customer's own desired format and style that is, in essence, a bid on a particular job or project."

Claim 5, element b - my analysis of the Long '354 Patent

See claim elements missing from Claim 1.

The Long '354 Patent does not perform the claim element: "a lead generation subsystem configured to convert a name to a potential customer."

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Among other things, the Long '354 Patent does not contain a lead generation subsystem.

The '525 Patent describes a lead generation subsystem as follows

> "The lead generation component 102 is provided to assist sales personnel to identify leads, to generate qualified leads and to begin the sales process. The lead generation component may include, for example, automated systems designed to assist the sales personnel in carrying out such tasks as telemarketing, kiosk presentations, trade show demonstrations, database marketing, electronic advertising, etc. ['525 Patent, 4:22-27]

Among other things, the Long '354 Patent does not "convert a name to a potential customer" as required by this claim element.

VI.B. Claim 6 in view of the Long '354 Patent

Claim 6, element a - language

- "[A system as recited in claim 1, wherein the plurality of subsystems comprises:] a time with customer subsystem configured to convert a lead to a buying customer, so as to close a sale; and"

Claim 6, element a - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 6, element a - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> [Claim 1 chart incorporated by reference]

> Col. 3 lines 27-34: "A variety of sales representatives in the field are each equipped with a personal computer 12 having processing capabilities, local memory and long term storage such as disk drives. Those personal computers 12 may be installed at the office locations of the sales representatives or may be portable units which they may carry with them to their home or other remote locations."

> Col. 10 lines 37-45: "Another option available within the system available to the sales representative on his personal computer 12 is to print what is called a submittal report. ...

A submittal report is a form for submission to the customer in the customer's own desired format and style that is, in essence, a bid on a particular job or project."

Claim 6, element a - my analysis of the Long '354 Patent

See claim elements missing from Claim 1.

See discussion for Claim 5a which is incorporated herein by reference.

Claim 6, element b - language

- "an order management subsystem configured to convert the sale such that a product or service delivered matches a product or service sold."

Claim 6, element b - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary

and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 6, element b - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 9 line 65 – Col. 10 line 37: "The order transmittal information required includes invoice name and address, an order number, a customer order number, a ship to address and other information such as shipping date, telephone numbers for inquiries and special shipping instructions. Before the order is transmitted the program proceeds to program step 106 in which job information questionnaire (JIQ) entry information is requested from the user. This information includes information about the project for which the materials are being ordered, such as the project name, address, the name and address of the general and subcontractors, name and address of bonding agencies and name and address of the project owner. Because such JIQ information is required by the manufacturer to properly fill such an order, the program will refuse to advance to order transmittal until the requested JIQ information is supplied.

> "Once the appropriate information has been assembled, at program step 108 the priced quote is retrieved from disk, indicated at 110 and is transmitted to the manufacturer as an order with the completed order transmittal and JIQ information via the electronic mail link.

> "At the manufacturer, the manufacturer host computer, during its periodic polling of requests and other items placed in its mailbox, senses that an order has been placed in its

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electronic mailbox and downloads the order at program step 112. Then the manufacturer host proceeds to verify the accuracy of the order at program step 114 and, assuming that it is accurate, prints the order for scheduling and credit approval at 116 resulting in an order number 118 in hard copy. A copy of the hard copy printout from step 118 is sent to the sales representative to confirm receipt and processing of the order. This is the end, indicated at 120, of the ordering process. The goods are then manufactured and shipped in accordance with the order instructions. Order confirmation can be retransmitted back to the sales representative, as desired, again using the electronic mail linkage."

Claim 6, element b - my analysis of the Long '354 Patent

See claim elements missing from Claim 1.

The Long '354 Patent does not perform the claim element: "an order management

subsystem configured to convert the sale such that a product or service delivered matches a

product or service sold."

Among other things, the Long '354 Patent does not contain an order management

subsystem. The '525 Patent describes an order management subsystem as follows

> "The order management component 106 assists sales personnel in efficiently managing the critical sales process phase that encompasses the time between the purchase decision and the time the product or service is delivered. For some products or services, this could be a short period of time, while for others it may be many months or even years. The order management component 106 allows the sales personnel to electronically manage changes and provide needed information to the customer during this critical time." ['525 Patent, 5:31-39]

The Long '354 Patent aids in making a sale but provides no description of after-sale follow-up.

VI.B. Claim 7 in view of the Long '354 Patent

Claim 7, element a - language

- "[A system as recited in Claim 1, wherein the plurality of subsystems comprises:] a time with customer subsystem configured to convert a lead to a buying customer, so as to close a sale; and"

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Claim 7, element a - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary

and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 7, element a - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 1 chart incorporated by reference]

Col. 3 lines 27-34: "A variety of sales representatives in the field are each equipped with
a personal computer 12 having processing capabilities, local memory and long term
storage such as disk drives. Those personal computers 12 may be installed at the office
locations of the sales representatives or may be portable units which they may carry with
them to their home or other remote locations."

Col. 10 lines 37-45: "Another option available within the system available to the sales
representative on his personal computer 12 is to print what is called a submittal report. ...
A submittal report is a form for submission to the customer in the customer's own desired
format and style that is, in essence, a bid on a particular job or project."

Claim 7, element a - my analysis of the Long '354 Patent

See claim elements missing from Claim 1.

See discussion for Claim 5a which is incorporated herein by reference.

Claim 7, element b - language

- "a customer retention subsystem configured to convert an existing customer into a lead,
  so as to generate repeat sales."

Claim 7, element b - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary

and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

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Claim 7, element b - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

> Col. 3 lines 27-34: "A variety of sales representatives in the field are each equipped with a personal computer 12 having processing capabilities, local memory and long term storage such as disk drives. Those personal computers 12 may be installed at the office locations of the sales representatives or may be portable units which they may carry with them to their home or other remote locations."

> Col. 10 lines 37-45: "Another option available within the system available to the sales representative on his personal computer 12 is to print what is called a submittal report. ... A submittal report is a form for submission to the customer in the customer's own desired format and style that is, in essence, a bid on a particular job or project."

Claim 7, element b - my analysis of the Long '354 Patent

See claim elements missing from Claim 1.

The Long '354 Patent does not perform the claim element: "a customer retention subsystem configured to convert an existing customer into a lead, so as to generate repeat sales."

Among other things, the Long '354 Patent does not contain a customer retention subsystem. The '525 Patent describes a customer retention subsystem as follows

> "A further core process component of preferred system 100 is the customer retention component 108. This component assists sales personnel during the phase of the sales process after delivery of the service or product purchased by the customer. Component 100 assists sales personnel in retaining a customer; this is accomplished through processes that ensure a customer remains satisfied with the purchase decision and that increase repeat sales opportunities." ['525 Patent, 5:65-6:5]

Furthermore, this claim element requires a lead, but the Long '354 Patent does not address how to discover and maintain leads.

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VI.B. Claim 8 in view of the Long '354 Patent

Claim 8, element a - language

- " [A system as recited in Claim 1, wherein the plurality of subsystems comprises:] a time with customer subsystem configured to convert a lead to a buying customer and prompting the buying customer to make a buying decision, so as to close a sale; and"

Claim 8, element a - construction

- "subsystem" - "a system that is part of a larger system"

My analysis construes the other terms of this element in accordance with their ordinary and customary meaning to one of ordinary skill in the art during the time frame of October 1995.

Claim 8, element a - analysis by Dr. Cook of the Long '354 Patent

Dr. Cook's analysis of this element is as follows:

[Claim 1 chart incorporated by reference]

Col. 3 lines 27-34: "A variety of sales representatives in the field are each equipped with a personal computer 12 having processing capabilities, local memory and long term storage such as disk drives. Those personal computers 12 may be installed at the office locations of the sales representatives or may be portable units which they may carry with them to their home or other remote locations."

Col. 10 lines 37-45: "Another option available within the system available to the sales representative on his personal computer 12 is to print what is called a submittal report. ... A submittal report is a form for submission to the customer in the customer's own desired format and style that is, in essence, a bid on a particular job or project."

Claim 8, element a - my analysis of the Long '354 Patent

See claim elements missing from Claim 1.

See discussion for Claim 5a which is incorporated herein by reference.

The Long '354 Patent does not perform "prompting the buying customer to make a buying decision, so as to close a sale." Indeed, the Long '354 Patent does not even properly